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1893

MANUAL  
OF THE  
FREE HIGH SCHOOLS  
OF  
WISCONSIN.

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PREPARED UNDER THE DIRECTION OF  
**OLIVER E. WELLS,**  
*State Superintendent.*

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1893.



MADISON, WISCONSIN:  
DEMOCRAT PRINTING COMPANY, STATE PRINTERS,  
1893.

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 This manual is intended to aid in interpreting the laws relating to free high schools; to furnish information regarding their establishment, organization and management and to offer suitable suggestions as to the scope and character of the instruction in such schools.

The present edition is limited so that an early revision may be made without unnecessary expense, if the experience of the school-room shall show the need of important changes.

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PART I.

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1893

## THE FREE HIGH SCHOOL SYSTEM.

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The statutes relating to high schools are given in consecutive order, and bear numbers to correspond with the same sections in Sanborn & Berryman's Annotated Statutes. The catch words introducing the sections, and some references to court decisions are, by permission of the editors, taken from the same source.

### ESTABLISHMENT OF FREE HIGH SCHOOLS.

*1893, 1900 cont. of*  
**How established—Not to apply where—**SECTION 490. (*As amended by Ch. 245, 1879.*) Any town or incorporated village or city or school district, which contains within its limits an incorporated village, or which has a graded school of not less than two departments, with not less than twenty-five pupils prepared to begin a high school course may establish and maintain not exceeding two high schools, in the manner and with the privileges herein provided. The question of establishing such schools may be submitted by the town, school district, or village board, or common council, at any annual or duly called special meeting, or election, upon written resolution therefor, proposed for adoption: *provided*, notice of such purpose, embodying such resolution, be given in the manner provided for notifying a special district meeting, town meeting, or charter election. The vote shall be taken by ballot, and canvassed according to the statutes for conducting elections in such municipality, those ballots in favor being written or printed "For high school;" those opposed, "Against high school." If the resolution be adopted, such towns, school districts, village or city shall constitute a high school district. But no city, incorporated village or school district in which a high school heretofore established has been reported, recognized and aided as a free high school, shall be required to take any vote on the resolution provided for in this section, but may continue to report and to receive aid on due compliance with the law in other respects. See forms No. 1 and No. 2 on page 17.

**Towns may unite in establishing**—SECTION 491. Two or more adjoining towns may unite in establishing and maintaining any such high school. The resolution proposing the same shall be approved and submitted, and the notice of election signed by at least two supervisors of each town, and the election shall be notified and conducted in each town as provided in the preceding section. Such resolution shall not be adopted unless a majority of the votes cast in each town be in favor thereof. The votes shall be canvassed at the first election and all subsequent elections in the several towns, as at town meetings; and the supervisors of the several towns proposing to unite shall, within one week after such elections, meet and canvass the votes and certify the result to the town clerk of each town. If such resolution be adopted, the several towns so voting to unite shall constitute a joint high school district.

**State aid, how obtained**—SECTION 491a. (*Sec. 1, Ch. 352, 1885.*) Whenever any town in which no graded school exists or when any two adjoining towns in which no graded school exists, shall vote to establish and maintain a free high school, as provided in sections 490 and 491, revised statutes, and such free high school shall have been established and maintained in the manner now provided by law for establishing and maintaining free high schools, for at least three months, and when the high school board of such town, or of such two towns adjoining which unite to maintain such school, shall make the report required by section 496, revised statutes, in order to obtain the aid furnished by the state of Wisconsin, in the maintaining free high schools, they shall append thereto a certificate, to the effect that such school is established and maintained in a town or by towns wherein no graded school exists. See form No. 3 on page 18.

**Schools classified—Amount of state aid**—SECTION 491b. (*Sec. 2, Ch. 352, 1885.*) Upon receiving the reports and appended certificate provided for in section 1 of this act, it shall be the duty of the state superintendent to make a separate and distinct class of the schools thus established and maintained in towns where no graded schools exist, and each such school shall be entitled to receive from the general fund of the state annually, one-half the amount actually expended for instruction in such school, and the state superintendent shall fix the amount to be paid to each of said high schools and certify the same to the secretary of state, at the same time and in the same manner as he is now required to fix the amount to be paid to high school-districts, and certify the same to the secretary of state. On such certificate, at any time after the first day of December, the same shall be paid to the district treasurer out of the state treasury; but the whole amount so paid shall



not exceed twenty-five thousand dollars in any one year to this class of free high schools, and if more is demanded by such districts, they shall be paid proportionally. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid, in addition to the amount authorized to be paid in aid of free high schools by section 496, revised statutes, and in addition to all other sums to be levied for the year.

By this act an annual appropriation of not more than twenty-five thousand dollars is made to encourage the establishment and maintenance of free high schools in towns where there are none but ungraded district schools.

This was the principal purpose of the first act proffering aid to free high schools. But few of these places took advantage of the assistance thus tendered, and the remainder of the appropriation is now devoted to the high schools established in connection with graded schools.

In organization, management, and the methods of application for aid, these schools will conform to the law heretofore existing in relation to free high schools.

Five different organizations are authorized to establish and maintain free high schools, to-wit: a town, two or more towns, an incorporated village, a city and a school district containing a village or a graded school of two departments.

The first step in organizing any one of these schools is the posting of notices of a purpose to vote on the question of the adoption of the system, as specified in form 2 of this manual. The town board, village board, district board, or the common council of the city, must notify the electors of a purpose to hold an election for voting on the resolution that is recited in the notice. When two or more towns purpose to unite in establishing a free high school at least two members of each board interested must sign the notices.

The second step is to take the popular vote by ballot, and if a majority of the ballots cast read "For high school," the resolution must be declared carried and the action should be recorded. A director, a treasurer and a clerk should be elected, in conformity to Sec. 492. But in single districts the district board becomes ex-officio the free high school board, and in cities that are not under the jurisdiction of county superintendents, the board of education likewise becomes the free high school board. When two or more towns unite in forming a free high school district a special election of free high school officers must be held subsequent to the vote on the organization of the high school. Due notices of such election must be posted by the respective town boards.

## ORGANIZATION AND MANAGEMENT OF FREE HIGH SCHOOLS.

**Officers — Terms — When existing boards to be officers —**  
 SECTION 492. (*As amended by Sec. 2, Ch., 245, 1879.*) The officers of each such district shall be a director, treasurer and clerk, whose term of office shall be each three years, beginning with the annual town meeting and until his successor shall have been chosen or appointed; *provided*, that at the first election the clerk shall be chosen for one year, the treasurer for two years, and the director for three years; and all of said officers may be chosen first at the same election at which the question of establishing a high school is submitted, to take their offices, if the resolution therefor be adopted. Thereafter such officers shall be elected at the annual town meeting or charter election. The votes cast shall be canvassed, and the results declared and certified, as provided in the preceding sections. But in all cities not under a county superintendent, which now constitute free high school-districts, or which shall hereafter adopt the resolution provided for in section four hundred and ninety, and become free high school-districts, the board of education in each such city shall be the high school board and the city treasurer shall be *ex-officio* the treasurer of the high school-district, unless the board of education embraces a treasurer; and in all districts maintaining a graded school of not less than two departments, which now constitute free high school-districts, or which shall hereafter adopt said resolution, the district board in each such district shall be the high school board; and the district treasurer shall be the treasurer of the high school-district.

**Duties of officers—Bond—Report—**SECTION 493. (*As amended by Sec. 3, Ch. 245, 1879.*) The officers aforesaid shall constitute the high school board; and as such board and as such officers shall conduct the affairs of such high school district on the same general plan provided for a school-district, and shall have and possess, with respect to such high school-district, all the powers, including all such as may be conferred by vote of a district meeting, and be charged with all the duties, conferred and imposed in these statutes on the district officers and district board of a school-district, applicable to such high school-district; the treasurer shall give a like bond, to be approved and filed in a similar manner. The high school-district clerk shall make a similar report to that provided in section four hundred and sixty-two, omitting the first subdivision. They may grade such school, and establish the branches of study to be taught therein, under the advice of the state superintendent. Every forfeiture and punishment enacted against neglect or violation of duty in a school-district officer for like neglect or



violation. The reports of free high schools in cities not under a county superintendent shall be included in the reports from such cities to the state superintendent, made by the city superintendent or clerk of the board of education.

The officers, if elected, are to bear the same names and are elected for the same terms as like officers in school districts. In cities independent of the county superintendent, the board of education, and in single districts the district board, becomes the free high school board, without action on the part of the people at the time of voting on the adoption of the system.

The duties of the several officers and of the boards are similar to those of district officers and boards. The clerk is to report directly to the county superintendent, but in cities independent of that officer, the report must be made by the city superintendent or by the board of education, and incorporated in the report of other matters to the state superintendent. Section 496 provides for a financial report to be made in duplicate for each free high school directly to the state superintendent.

**Schools free—Qualifications of principal—Course of study**—SECTION 494. (*Sec. 4, Ch. 245, 1879, Ch. 146, 1881, and Ch. 445, 1891.*) All such high schools shall be free to all pupils resident in the district. Every principal of any high school hereafter elected or appointed, shall in addition to his qualifications as teacher of a common school, be a graduate of some university, college or normal school, or shall hold a state certificate, or shall pass an examination in the studies required to be taught in any such school, provided, the state certificates authorized by the laws of Wisconsin, and the certificates authorized by section 1, of chapter 242, of the laws of 1885, as amending chapter 325, of the laws of 1883, shall legally qualify their holders, both as principals and as teachers of common schools; and each principal and each assistant teacher in a free high school shall be eligible to teach only on approval of his certificate by the state superintendent; and the high school boards or boards of education having charge of such schools, shall determine, with the advice and consent of the state superintendent, the course of study and minimum standard of qualifications for admission to the same.

The state superintendent will require each assistant in such schools to furnish evidence of his qualifications to teach every branch assigned him in the school course. Every assistant in a free high school who does not hold a state certificate or a countersigned diploma should therefore secure the superintendent's approval of his qualifications before the beginning of the fall term of school. Only thus can he make a legal

contract, or the school be entitled to the aid provided by law. Each assistant should send to the state superintendent, to be approved, the highest certificate the local authority is authorized to issue, and which continues in force during the time for which he wishes his certificate. Should he desire to teach branches that are not included in this certificate, the state superintendent will provide for his examination in such topics.

Diplomas from reputable colleges and state normal schools not in the state will receive due credit if accompanied by proper certificates.

Chapter 156 of the laws of 1893, so intimately relates to the high schools, that it is inserted here.

#### DIPLOMAS.

**Wisconsin colleges, university and normal schools—When a legal license to teach—SECTION 1** (Chapter 156). Any diploma which, by law the state superintendent is authorized to countersign, and which, when so countersigned, has the force and effect of an unlimited state certificate to teach in the common schools of the state, shall constitute a legal license to teach in any public school in the state without further examination, for such period from the date of issuance of said diploma, as, by existing laws, the holder thereof is required to teach before said diploma may be countersigned by the state superintendent.

**Certificate from normal schools—When a legal license—SECTION 2.** A certificate from the elementary course of the normal schools shall constitute a legal license to teach for one year in any common school without further examination; provided, that a limited state certificate and a certificate from the elementary course of the normal schools shall not qualify the holder as principal of a free high school having a four years' course of study.

**Diplomas from other colleges and universities when countersigned.—SECTION 3.** After any person has graduated at any incorporated college or university, whose courses of study are fully and fairly equivalent to the corresponding courses of study in the state university, and after such graduation has successfully taught a public school for sixteen school months, the state superintendent shall have authority to countersign the diploma of such teacher, after such examination as to moral character, learning and ability to teach as to said superintendent may seem proper and reasonable, and after having ascertained that the course of study from which such person has graduated is fully and fairly equal to the corresponding course in the state university.



**Countersigned diplomas, qualifications to teach.—SECTION 4.** Any person holding a diploma granted by any such aforesaid college or university, certifying that the person holding the same is a graduate of such college or university, shall, after his diploma has been countersigned by the state superintendent, as aforesaid, be deemed qualified to teach any of the public schools of the state, and such diploma shall be a certificate of such qualification, until annulled by the state superintendent.

**Certificates from other states—when countersigned.—SECTION 5.** Teachers' certificates, granted by other states, which are fully and fairly equivalent to the Wisconsin unlimited certificate, may be countersigned by the state superintendent. The holder of such certificate shall furnish to the state superintendent such evidence of good moral character, experience and success in teaching as is required for the unlimited state certificate. When countersigned, such certificates shall have the force and effect of the unlimited state certificate.

**SECTION 6.** All acts or parts of acts in conflict with the provisions of this act are hereby repealed.

The only diplomas that the state superintendent was authorized to countersign at the time of the passage of this act were those granted by Wisconsin universities, colleges and normal schools. The reference in Sec. 1, can, therefore, include only such diplomas. Graduates of the state university, specified under section 458c, Sanborn & Berryman (p. 66, code), and graduates of the normal schools may have their diplomas countersigned by the state superintendent after one year's successful teaching in the public schools of the state subsequent to graduation. Graduates of the state university, mentioned under Sec. 387, and the graduates of Wisconsin institutions recognized under chap. 209, laws of 1880, may have their diplomas countersigned after two years' successful teaching as indicated above. Satisfactory testimonials as prescribed by law, will be required. The diplomas specified in the first case constitute a valid certificate for one year. Those in class two constitute a valid certificate for two years.

It should be noted that the diplomas of normal schools located without the state are not included in the provisions of this law. The holders of such diplomas must obtain legal qualifications as teachers of common schools before they can make a valid contract to teach in a public school.

**Taxes, how apportioned—Payments how made—SECTION 495.** The high school board shall, annually, on or before the second Monday in September, meet and determine the amount necessary to be raised by tax for the support of such high school, and certify the same to the proper town, city or village clerk; if a joint high school district, they shall certify to the town clerk of each town, the propor-

tionate amount thereof to be raised by such town, such proportion to be determined according to the total valuation of all the taxable property in such town as equalized by the town boards of review. Such tax shall be assessed on the next tax roll by such clerk or other officer making the same, and collected and returned as other taxes, and paid to the high school-district treasurer. Such moneys shall be paid out only on orders drawn and countersigned as prescribed in case of school-districts. Any town which is a single high school-district may, by resolution adopted at the annual town meeting limit the amount to be raised for high school purposes in such town, during such year. In case of a joint high school-district, the town boards of the several towns embraced may, by a joint resolution adopted by all such town boards before the first day of July, likewise limit the amount to be raised in such district.

The certificate of the amount of tax necessary to be raised is to be made in September. Towns having a high school may, by vote, limit the amount of tax, and the tax in joint high school-districts may be likewise limited by the town boards; but otherwise the amount of annual tax levy for this purpose is finally determined by the board.

**State aid, amount of, how obtained—Levy of taxes for—**  
**SECTION 496.** (*As amended by Sec. 5, Ch. 245, 1879, Ch. 273, 1883, Ch. 420, 1885, Ch. 466, 1889, and Ch. 332, 1891.*) Any high school district which shall have established a free high school, according to the provisions of these statutes, and shall have maintained the same for not less than three months in any school year, shall be entitled to receive from the general fund of the state, annually, one-half the amount actually expended for instruction in the high school of such district, during such school year, over and above the amount required by law to be expended for common school purposes, but not to exceed in one year five hundred dollars to one district. To obtain such aid, the high school board, or, in cities not under a county superintendent, the president and secretary of the board of education, and the treasurer, shall, on or before the first day of November, report in duplicate to the state superintendent, under their oaths, the amount actually expended for instruction, during the previous school year, specifying the several items thereof, with the date and object of each, fully. Thereupon, the state superintendent shall fix the amount to be paid such high school district, and certify the same to the secretary of state, with one of such reports annexed; provided, the state superintendent shall be authorized to withhold the certificate from any free high school district for reasons based upon failure to comply



with the laws relating to free high schools, which reasons he shall have transmitted in writing to the free high school board thereof, on or before the thirtieth day of the preceding June. On such certificate, at any time after the first day of December, the certified amounts shall be paid to the district treasurer out of the state treasury. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid, in addition to all other sums to be levied for the year. Hereafter, when by any neglect or omission, any free high school shall fail to have apportioned to it, its share of state aid under this act, the state superintendent may, after the time hereinbefore fixed for such apportionment by him, fix an amount ten per centum less than the amount which such free high school would have been entitled to, had it complied with the provisions of this act, and certify the same to the secretary of state, with the report of such district or districts annexed thereto, and the secretary of state shall thereupon draw his warrant for such amount or amounts in favor of such district or districts. The whole amount annually paid under the provisions of this section shall not exceed the sum of twenty-five thousand dollars, and if more be demanded by such districts, they shall be paid proportionally; provided, however, that if the whole amount authorized to be paid annually in aid of free high schools in towns having no graded schools, by chapter 352, of the general laws of 1885, is not demanded or expended under the provisions of that law, then the unexpended balance of the amount therein annually authorized to be paid in aid of free high schools in towns having no graded schools, may be added to and appropriated among the free high schools provided for in sections 490 and 491, of the revised statutes; but no more than fifty thousand dollars shall be apportioned to both classes of free high schools in any one year as now provided by law.

The amendment to section 496, made in 1889, by chapter 466, is found in the provision at the end of the section, and its application results in making fifty thousand dollars available for the schools, giving preference as before to town high schools.

The amendment to this section, made in 1891, commences with the twenty-third line and is as follows:

“Provided, that the state superintendent shall be authorized to withhold the certificate from any free high school district for reasons based upon failure to comply with the laws relating to free high schools, which reasons shall have been transmitted in writing to the free high school board thereof, on or before the 30th day of the preceding June.”

The whole design of this amendment is to protect the schools whose officers do comply with the law from loss of money on account of par-

ticipation in the aid by schools whose boards do not conform to the law. The state superintendent is required by law to approve the qualifications of each principal and each assistant in the free high school and to approve its course of study. If deficiencies shall be known to exist in any school in these or other essentials for the successful work of the school, the state superintendent will correspond with the board in relation thereto. If the subjects of inquiry are found to be practices that are in neglect or defiance of laws relating to these schools, the state superintendent will transmit to the free high school board notification of a purpose to withhold the certificate from the secretary of state, as provided in the amendment.

Every free high school may share in the aid offered by this section if it shall have maintained a school taught by qualified teachers for three months of the year for which aid is sought; shall have established and maintained a course of study approved by the state superintendent; shall have expended during the year for instruction in the high school, exclusive of the cost of maintaining a common school, an amount equal to twice the sum claimed as aid, and shall report as required by the section.

**State superintendent to supervise schools.**—SECTION 496*a*. (*Ch. 325, 1883, as amended by Ch. 242, 1885.*) 1. The state superintendent shall prepare a course or courses of study suitable to be pursued in free high schools, publish the same, and furnish them upon application for the information of localities contemplating the maintenance of free high schools. He shall exercise such personal supervision and make such personal inspection of the work of all free high schools organized under the provisions of the statutes of this state as they seem to require, and other duties of his office may warrant; and he may call to his assistance in the work of inspection and supervision of free high schools, the professor of theory and art in the university, and occupy so much of his time as will not interfere with a proper discharge of his duties in connection with the university; he shall examine, or cause to be examined, all teachers of high schools required by law to pass special examinations to qualify them for teaching in high schools, and grant certificates to such as pass examinations satisfactorily, which certificate shall be in such form and for such time as he may prescribe, and shall authorize the holders to teach in such special place or places, or in the whole state as the qualifications of the candidate may warrant. The course of study herein authorized to be prepared shall include instruction in the theory and art of teaching, and organization, management and course of study of ungraded schools, and all examinations of teachers shall include examinations upon these subjects.



2. The state superintendent shall furnish suitable blanks for annual and special reports for all free high schools, which shall include the number, age and sex of all pupils enrolled, the number in each class or year of the course of study, the number pursuing English branches only, the number completing the course of study each year, and such other statistics as may be deemed necessary.

Blanks for the annual reports will be mailed by the state superintendent to clerks, on the 15th of May, and for the financial reports on the 1st of August.

#### SUPERVISION OF FREE HIGH SCHOOLS.

**Inspector of free high schools**—SECTION 165*d*. (*Ch. 426, 1889.*) 1. The state superintendent is hereby authorized to appoint a person of suitable qualifications to assist him in visiting, inspecting and supervising the free high schools of the state, and to aid in giving information and needed assistance to localities in organizing and maintaining free high schools in towns where no graded schools exist.

**Salary**.—2. The person appointed pursuant to the provisions of this act shall receive an annual salary of eighteen hundred dollars, and reimbursement for all actual and necessary expenses incurred, payable monthly, upon the certificate of the state superintendent, from the annual appropriation to encourage the establishment of free high schools provided in chapter 352, of the general laws of 1885.

**Other duties**.—3. The person hereby authorized to be appointed by the state superintendent may be assigned such duties in the office of the state superintendent when not engaged in the specific duties enumerated in section 1, of this act, as the said state superintendent may determine and designate.

This provision virtually supersedes the provision of chapter 325, laws of 1883, amended by chapter 242, laws of 1885, authorizing the professor of theory and art in the university to be called to assist in the supervision of free high schools. It is not designed to supplant county or city superintendents by state supervision, but to advise and coöperate with them in plans for the improvement of the schools under their immediate charge.

## VALUE OF DIPLOMA—DUTY OF BOARD.

**Graduates of high schools entitled to certificates —**  
SECTION 452a (*Ch.* 311, 1885.) The high school board of each town, incorporated village, city or school district, which contains within its limits an incorporated village in this state, in which there is, or shall hereafter be maintained a free high school, according to the provisions of law, shall make out and deliver to each graduate of such respective high schools at the time of graduation, a certificate of his standing in the various branches which he has pursued in such school, and any such graduate who shall have duly passed an examination for and received a first grade certificate from the county superintendent of schools of the county where he shall then reside or shall have so graduated, upon furnishing to any county superintendent satisfactory proof of having successfully taught at least one school year under such first grade certificate, such county superintendent may countersign such certificate of graduation or diploma and the same when so countersigned shall have the same force and effect (for all purposes) of a first grade county certificate for the period of four years, from and after the time when the same is so countersigned.

# FORMS.

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## No. 1.

### FORM OF RESOLUTION PROPOSED.

In order that the question of establishing and maintaining a high school in the town of —— may be submitted to the electors thereof for determination, the following resolution is hereby proposed for adoption:

*Resolved by the town board of the town of——, That a high school be established and maintained in said town.*

The town clerk is directed to give notice that said resolution will be submitted to a vote at the annual town meeting (or general election) to be held in said town on the —— day of ——, 18—, (or at a special town meeting or election to be held on the —— day of ——, 18—, which the town clerk is hereby required to call upon due notice.)

Dated this —— day of ——, 18—.

(Signature of Town Board.)

If two or more adjoining towns propose to unite, Form No. 1 should be voted upon by the town board of each town, and favorable action by each is essential as preliminary to the notices contemplated in the following:

## No. 2.

### FORM OF NOTICE—SUBMITTING PROPOSITION TO VOTE.

Notice is hereby given to the electors of the town of —— in the county of ——, that at a special election which is hereby called (or at the annual town meeting, or general election) to be held in said town on the —— day of ——, 18—, the following resolution will be submitted to the vote of said electors:

*Resolved, etc. [as in the foregoing]; and that at said election members of the high school board will be chosen, to take their offices if said resolution be adopted, the clerk for one*



year, the treasurer for two years, and the directors for three years; their respective terms of office beginning with the annual town meeting,

Dated this —day of —, 18—.

(Signed.)

———, *Town Clerk.*

The above forms may be used with the proper changes, in the case of incorporated villages, or graded school-districts, the call and notice to be signed by the village or district clerk.

In case the call is for special school-district meeting, it must be signed by at least five legal voters of the district, and the notice given at least six days before the time appointed.

If other matters are to be acted upon at the meeting, as authorizing the board to borrow money, to build a schoolhouse etc., the notices will be modified to include such propositions.

### No. 3.

Form of certificate to be forwarded to the state superintendent to secure participation in apportionment to free high schools.

This may certify that on the — day of —, 18—, the legal voters of the town of — [or towns of —, where two or more towns unite, or of school-district No. —, town of —, where vote is by a school-district, or city, or village] adopted a resolution to establish and maintain a free high school in said town (or towns, or school-district), and the persons whose names are hereunto appended have been duly elected to the office appended to their names, respectively. We further certify that no (or one or more) graded school exists in said — of —. The course of study adopted by said high school board for said high school is herewith submitted for the approval of the state superintendent, and the names and examination papers of —, pupils prepared to enter said high school, who are residents of said town (or towns, or school district) of —, are herewith forwarded for inspection. The examination of these pupils was held on the — day of —, 18—, and was conducted by —.

Dated at —, this — day of —, 18—.

——— } *Director.*  
 ——— } *Clerk.*  
 ——— } *Treasurer.*

NOTE.—With this certificate the examination papers of at least twenty-five pupils, residents of the high school-district, should be forwarded. The character and scope of these examinations are commented upon page 19 and 25.



## SUMMARY AND GENERAL SUGGESTIONS.

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### ORGANIZATION.

In organizing and establishing a school the following steps are necessary:

1. A submission to the legal voters of the question of establishing such a school, in the form of a written resolution, by the boards of supervisors of towns, the boards of trustees of villages, the common councils of cities, or by the district boards of school districts.

2. A vote by ballot, at a regular or specially called meeting of the legal voters of the towns, village, city or school district, upon the adoption of the resolution submitted.

3. A canvass of the votes in the same manner as other votes by the municipality are canvassed, and a certification of the result of the vote.

4. An election of a high school board, except in cities and in villages or districts having a graded school of not less than two departments.

5. An examination of the pupils to determine whether there are twenty-five residing in the high school district sufficiently advanced to take up a high school course.

When a school is ready, the high school board should notify the state superintendent who will send the high school inspector, under whose supervision the examination will be conducted.

The questions will be based upon the work proposed by *The Manual of the Elementary Course of Study for Common Schools*, omitting the constitutions of the state and the United States.

6. The adoption at a regular meeting of the high school

board of a course of study and the approval of the course by the state superintendent.

When these preliminaries have been satisfactorily completed the state superintendent will issue a certificate of establishment.

#### COURSES OF STUDY.

The superintendent has prepared, in accordance with the law previously quoted, several courses of study. The first, a 'Three Years' Course, should be adopted without change, in schools of that rank, and the order of the branches should be maintained as presented.

Four other courses are also presented, each of which is preparatory to the course of the same name in the state university. Where but one course is maintained, the English should be adopted. If another is to be selected, it should be the General Science. Where the teaching force is sufficient the Modern Classical and Ancient Classical courses may be added. However, neither of the latter two should be adopted alone, and either can be approved only in connection with the first. It is thought that the English and General Science courses give the best possible education to students not intending to pursue their studies further.

The 'Three Years' Course may be administered by the principal alone. No 'Four Years' Course will be approved for any locality unless there is in the school at least one qualified assistant, who devotes all his time to high school work; and it would seem that neither of the classical courses should be attempted unless the school has two assistants.

COURSES OF STUDY.

PREPARED BY THE STATE SUPERINTENDENT.

THREE YEARS' COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR.	COMPOSITION.	COMPOSITION.
PHYSICAL GEOGRAPHY.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA.	ALGEBRA.	ALGEBRA.
LITERARY READINGS.		

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
U. S. HISTORY.	U. S. HISTORY.	CONSTITUTIONS.
BOTANY.	PHYSIOLOGY.	PHYSIOLOGY.
ARITHMETIC.	BOOKKEEPING.	ARITHMETIC.
LITERARY READINGS.		

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
GENERAL HISTORY.	GENERAL HISTORY.	GENERAL HISTORY.
PHYSICS.	PHYSICS.	PHYSICS
PLANE GEOMETRY.	PLANE GEOMETRY.	THEORY AND ART.
LITERARY READINGS.		

The following more extended courses are approved by the state superintendent:

### FOUR YEARS' COURSES.

#### ENGLISH AND GENERAL SCIENCE.

##### FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR.	COMPOSITION.	COMPOSITION.
PHYSICAL GEOGRAPHY.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA.	ALGEBRA.	ALGEBRA.
LITERARY READINGS.		

##### SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
BOTANY.	PHYSIOLOGY.	PHYSIOLOGY.
U. S. HISTORY.	U. S. HISTORY.	CONSTITUTIONS.
ARITHMETIC.	BOOKKEEPING.	ARITHMETIC.
LITERARY READINGS.		

##### THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
GEOMETRY.	GEOMETRY.	GEOMETRY.
HISTORY.	HISTORY.	HISTORY.
GERMAN or POLITICAL ECONOMY.	GERMAN or WORD ANALYSIS.	GERMAN or RHETORIC.
LITERARY READINGS.		

##### FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH LITERATURE.	ENGLISH LITERATURE.	ENGLISH LITERATURE.
PHYSICS.	PHYSICS.	PHYSICS.
GERMAN or MENTAL SCIENCE.	GERMAN or REVIEWS.	GERMAN or THEORY AND ART.
LITERARY READINGS.		



## MODERN AND ANCIENT CLASSICAL.

N. B.—These are to be used only in connection with the English Course. In case either is adopted it will be necessary, in order to save recitations, to transpose Geometry and Arithmetic-Bookkeeping, placing the former in the Second Year. The one term of the Third Year Arithmetic should be, in the English and Scientific Courses, devoted to Algebra and Geometry. This is the more logical arrangement.

## FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR.	LATIN.	LATIN.
PHYSICAL GEOGRAPHY.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA.	ALGEBRA.	ALGEBRA.
	LITERARY READINGS.	

## SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
UNITED STATES HISTORY.	UNITED STATES HISTORY.	CONSTITUTIONS.
PLANE GEOMETRY.	PLANE GEOMETRY.	SOLID GEOMETRY.
	LITERARY READINGS.	

## THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
HISTORY.	HISTORY.	HISTORY.
GERMAN <i>or</i> GREEK.	GERMAN <i>or</i> GREEK.	GERMAN <i>or</i> GREEK.
	LITERARY READINGS.	

## FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
PHYSICS.	PHYSICS.	PHYSICS.
GERMAN <i>or</i> GREEK.	GERMAN <i>or</i> GREEK.	GERMAN <i>or</i> GREEK.
	LITERARY READINGS.	

## EMPLOYMENT OF TEACHERS.

The high school board should be careful in their choice of teachers, and should always insist, before any engagements are made, that the teachers possess the qualifications required by law.

## RECORDS.

Boards should provide for the high school two record books sufficiently large to serve for several years. In one, which may be in form like the following, should be kept the term or semi-term standings:

Arithmetic.				Grammar.			History.			
A. B.	75	83	78	93	79	86	85	84	83	.....
	88			83			85			
C. D.										.....
										.....

The other should record final standings only and may be ruled as follows:

Name.	Arith.	Gram.	Hist.	
J. S.	86	83	79	

These books should be frequently examined because upon the accuracy with which they are kept will depend the power of the board to comply with the provisions of the law relating to certificates for graduates. See page 16.

## STANDARD OF ADMISSION.

The standard established at the examination for organization must remain the minimum standard for admission after establishment.

After July 1, 1894, the minimum standard of admission to all the free high schools of the state will be *The Course of Study for Common Schools* except constitutions of the state and of the United States. If pupils who have not completed this course are received and taught by the teachers in the high schools, a *pro rata* deduction will be made from the amount reported as expended for instruction in the high school department. This may mean a reduced apportionment of state aid.

The following is a summary of the course laid down in *The Manual of the Elementary Course of Study for Common Schools* and will assist in determining the requisites for admission to the high schools. However, the closer study of the *Manual* will indicate more clearly the force and meaning of this summary.

## READING.

The pupil should have acquired:

1. Ability to read intelligently and with good expression any selection in the fourth reader.
2. Ability to give a clear statement of the meaning of the passage, to define the words used, and to explain the allusions.
3. Ability to modulate the voice at will in stress, volume, pitch, rate, inflection and quality.
4. Ability to recite with good expression, choice selections of prose and poetry equal to six pages of the reader.
5. Ability to use the dictionary intelligently.

## SPELLING.

The pupil through force of habit should spell correctly the words he uses in his written work of all kinds. He should acquire the habit of consulting the dictionary in all



doubtful cases. He may fairly be tested by his spelling in examination papers in other branches, by his spelling of a list of words, and by his ability to reproduce and apply the principal rules of spelling:

### WRITING.

The pupil should have the ability to write legibly, neatly, and in good form, within three minutes, two stanzas from Longfellow's poem, "A Psalm of Life," or an equivalent selection not previously written.

### GRAMMAR.

Pupils who have completed this course in language should be able:

1. To give clear and grammatical expression to their thoughts, orally or in writing, and to use capitals and punctuation marks correctly.
2. To use a vocabulary sufficient to express their thoughts with precision.
3. To construct sentences using correctly the forms of nouns, pronouns, adjectives and verbs suggested in the outline of work.
4. To separate easy composition into component sentences, and sentences into principal and modifying elements, and to apply the rules of construction.

### GEOGRAPHY.

When the course has been completed, an examination should demonstrate the pupil's ability:

1. To read maps readily.
2. To sketch in outline each of the continents; and to state, approximately, their relative size, using Wisconsin and the United States as the units of measure.
3. To give the system of water-partings and drainage slopes of each continent.
4. To locate and tell something about any land or water form, city, or other point of interest included in the course of tracing lessons.
5. To describe important areas of production, especially those of our own country.

6. To draw from memory, and with a fair degree of accuracy as to detail, a map of Wisconsin.

7. To grasp intelligently the mathematical concepts pertaining to the earth's rotation, revolution and axial inclination. Definitions of mathematical terms employed should be understood—and memorized; but questions involving problems respecting the relations of the earth's form, position and movements should be carefully framed and varied so as to test not the memory but the power of forming mental images and of reasoning.

8. To comprehend clearly the system of reckoning standard time; also the method of land surveying, with its practical applications.

9. To show by means of diagrams or drawings the course of constant and of periodic winds and of ocean currents, and to explain the causes and effects of the same.

### ARITHMETIC.

The pupil should show:

1. Ability to analyze problems involving applications of Percentage indicated in the course of study, problems in Proportion, and in Mensuration of Surfaces and Solids where geometrical formulas are not employed. This analysis should show a logical train of thought properly expressed.

2. Ability to indicate by arithmetical symbols the operations necessary to the solution of problems in the classes mentioned above.

3. Ability to extract square and cube roots and to give an explanation of the processes used.

4. Ability to state original, practical problems of the various classes indicated in 1, and to solve them.

5. Skill in writing the various kinds of business forms in common use, and in performing by short methods the computations required in ordinary business transactions.

6. Ability to define arithmetical terms used, and to state rules for performing operations.

7. Accuracy and rapidity in performing the work required above are essential requisites for completion of the work of this Form.

It is expected that both physiology and history will have been studied before the pupil enters the high school. It is a difficult matter to make a summary of the preliminary work that should be done in those branches and so reference is made to pages 78 and 87, inclusive, of *The Manual for Common Schools*.



## OUTBUILDINGS.

Recently this department issued a circular on school architecture and from it the following is taken. It is pertinent to the nauseating condition in which many of the schools permit their privies to remain :

“The construction and care of privies is a difficult part of school management. Much has been written and said about it, but the utterly repulsive condition of most of these necessary conveniences shows that the progress in this matter has been very slow. Nevertheless, the interests of life, health and decency demand that the struggle should be continued. The following rules ought to be rigidly observed in their construction :

1. They should be private, that is, masked or screened from observation. A row of Balsam fir or Norway spruce planted between the privies and the road will make an effective screen in a few years, and will add greatly to the beauty of the place.

2. They should be separate, out of sight and out of mind, each from the other.

3. They should be well lighted and well ventilated.

4. They should be constantly supervised, — kept clean.

The last rule can be obeyed only by constant and discreet vigilance. It will impose on teacher or janitor duties that are always unpleasant and may sometimes seem to be indelicate, but the abhorrent condition of school privies demands that almost any sacrifice be made to save children from the mental and moral degradation incident to daily contact with indecency.

Generally a little plain talk to the boys will secure the co-operation of the well disposed. With their aid, vigilant care on the teacher's part will beget a sentiment that will restrain the thoughtless.

These outbuildings should be plainly, but substantially built; they should be raised at least one foot above the ground, and placed on substantial foundations. Inside walls and ceilings should be covered with matched boards, and on the last coat of paint sand should be sifted to prevent marking. These buildings should be separated into compartments by board partitions six feet in height. In the boys' privies urinals should be provided discharging into the vaults, and in each one seat should be provided so low that young children may occupy it and still rest the feet on the floor. The receptacle for excrements should be made water-tight, so that no portion of them can be filtered into the ground. Vaults may be of brick with brick floors, extending one foot beyond and in the rear of the building.



The vault floor should slope toward the rear to facilitate cleaning, and the projection of the vault should be closed by a tightly fitting door, hinged to the house and secured by a lock. From the vault a tight wooden flue, six inches square, should extend above the roof and in the rear of the building for ventilation. The contents of the vault should be frequently covered with dry earth or dry wood ashes, and the vault should be cleaned in vacation and thoroughly disinfected. A cheap and effective disinfectant may be made by dissolving chloride of lime in water, using one pound to a gallon of water. This may be used to disinfect urinals, and if sprinkled occasionally over the floors of outbuildings and then washed off, will help to render their condition tolerable."



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## PART II.

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# THE LANGUAGES.

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## ENGLISH .

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In the administration of any well regulated course of study few branches can be considered as isolated. There is a correlation that must be observed and each study must be viewed in the light of those that precede and of those that follow. A wise principal then, will study the work of one branch in its place in the group and will see that no time is wasted in fruitless repetition and that in the separate branches no phases of importance are left unexamined. In fact, the proper correlation of studies throughout the course is the one task that devolves absolutely upon the principal and the fidelity with which he discharges this duty will be in a large degree the measure of his success.

English composition, grammar, word analysis, rhetoric, English literature and literary readings form a group of studies in which the work must be in a sense continuous. A few under-lying principles govern the teaching of all and the domain of one encroaches broadly upon that of another. The aims of all are to secure a ready and fluent use of both the spoken and written language and at the same time to open the mind to the powerful influences exerted by books.

Here, as elsewhere, it is assumed that the pupil enters the high school prepared fully on the work in *The Manual for Common Schools*. Upon no point have the criticisms upon the high school been more uniform nor have they anywhere been more pertinent. It has been

repeatedly claimed that graduates could not comply with the professed requirement for admission. If, then, pupils have entered the school ill prepared along these lines, the fact should be determined at once and the difficulty removed by special exertion with these individually. Composition work should be continued throughout the course, but it should be of so varied a nature as never to forfeit the interest of the class or allowed to fall into the domain of pure drudgery. Antecedent to the formal study of Rhetoric and as a pre-requisite of graduation from every course, all pupils should master the fundamental principles of Composition well set forth in the following:

"I must take it for granted: 1. That they are able to write moderately difficult sentences of all kinds. 2. That they are able to write clear and correct letters—letters of friendship and letters of business. 3. That they are able to write simple exercises in narration and description in a becoming style. 4. That they are able to apply the rules for punctuation and capitals. 5. That they have learned to use the common figures of speech, as, the simile and the metaphor; and also to observe these principles on the printed page."

The following on Composition and English literature, taken from an article by O. F. Emerson, is full of valuable suggestions and should be read and re-read by every teacher of English:

#### COMPOSITION.\*

"The power of expression comes only by practice and training. The teacher's work is one of direction, supervision, inspiration. Every recitation should be in some sense an exercise in English. Recitations should not be mere statements in set forms of facts learned, but an interchange of thought. The pupil's real knowledge can be expressed in words fully his own. Training of especial value may be obtained in translation, and to acquire a clear, pure, vivid, English rendering is to enrich the

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This essay and the following on English Literature are reprinted from *The Academy* of June, 1839, by special arrangement with Mr. Bacon.



pupil's vocabulary and ensure some appreciation of literary form. \* \* \*

Of the four classes of prose—description, narration, exposition, argument—the first two only will be much used. The best training will come from treating simple subjects in a simple manner. In the selection of subjects the pupil should have some choice, and the teacher a definite supervision. These will be secured by giving for the exercise five or six subjects, of which each pupil chooses one. Later he may be given the privilege of selecting his own subject, after conference with the teacher, who should be sure the pupil has reason for his choice and ability to treat it. Subjects selected should appeal to the pupil's interest, or an interest may be given them by explanation and suggestion of the teacher. \* \* \*

Directions as to treatment of a subject are necessary, for training in expression should be training in thinking also. A pupil cannot be expected to know how to construct for himself. His whole habit of text-book study is opposed to this, and he must be guided to the use of his thinking power. In description he must be taught to select a point of view, to treat the various parts in a natural order, to describe each part completely before taking another. Where no natural order presents itself, a plan must be selected, or the pupil taught to arrange his material in proper relations, after writing as thoughts present themselves. Outlines of subjects should be presented in such variety as to allow individuality of treatment. A helpful plan is to suggest treatment of a similar subject by some good writer, not to be followed implicitly, but to stimulate thought. For the subject, a day at the circus, the pupil might be referred to the play in the first chapters of *Pendennis*, or for a winter scene to some description of autumn by John Burroughs. Details of preparation demand the most explicit directions. The best way to secure neatness and care is to require uniformity of paper, to insist on margin at the left, on using but one side of the sheet, on properly indenting the paragraphs, and on folding in a particular manner with name and subject in proper place on the outside.

In correcting exercises the aim is helpful criticism by the teacher, and intelligent remodelling by the pupil. Both are equally important, unless the latter takes precedence. It should not be forgotten that criticism includes encouragement as well as fault-finding, since it is better not to correct everything at once than to discourage the pupil. The best results come from reading each essay with the pupil, explaining the reason for changes. Otherwise some simple method of suggesting changes is desirable, as symbols for common errors in syntax, spelling, capitals,



punctuation, paragraphing, ambiguity, irrelevancy. In all cases changes should be made by the pupil, the exercises being re-written in whole or part if necessary. Certain errors of construction may be criticized with the class, and special attention should be given to the inflectional forms in our language, particularly the possessives, of nouns, the pronouns and strong verbs. The proper use of *will* and *shall*, *would* and *should*, requires repeated explanations, as do similar verb forms, *lie* and *lay*, *sit* and *set*, and the double preterites of a few verbs. One should not insist on a minute nicety, as a substitute of a *polite* word for a homely but proper term; \* \* \* niceties in punctuations only found in books on the subject. All these belong to a school-master's dialect, and would pervert rather than assist the child's English. The standard language is that of cultivated people, not that of the school-master. \* \* \* Nor should criticism be merely verbal or syntactical. The unit of the essay is the paragraph, and to paragraph well is one of the best results attainable in any school. Pupils will at first make no paragraphs, or each sentence will stand alone. The relations of the parts of an object described to the divisions of the essay may be noticed, and rearrangement in paragraphs should be required when necessary. Other common mistakes are lengthy introductions and abrupt endings. The first is usually due to lack of plan, the second often to imperfect arrangement. Symmetry in form, even to the exclusion of unnecessary matter, though often neglected, is most important in its relation both to correct expression and to right thinking.

The forms of descriptive composition are so numerous that there need be no lack of variety. Description of objects, places, events within the pupil's experience, comes first, but there is so great variety that interest will depend on the teacher's selection. It is essential that the subject be something real to the pupil, as a game of ball, a visit to a neighboring village, a manufacturing establishment, a week at the farm. Next come subjects less closely associated, selected with reference to sources of information. Composition will thus have a definite relation to reading good books and knowledge of literature. History, travel, biography, fiction, descriptive and narrative poetry will contribute. A definite reference to a particular chapter or article may be made with such subjects, as the siege of Leyden in Motley's *Dutch Republic*; Westminster Abbey in Irving; the chariot race in *Ben Hur*. If biography be chosen the pupil's thought should be directed to an impression of the man, not merely to dates and events. Subjects enlisting the imagination may be selected, as an imaginary journey, the life of a former time, and short stories of adventure or entertaining incident.

A most valuable form is the paraphrase or reproduction of another's ideas in the pupil's own words. Care should be taken that paraphrasing be not so minute as to prevent freedom of expression. Its main object is to test, not whether the pupil has obtained all the ideas of a poem or sketch—something unusual with readers of experience—but whether he can state clearly what he has obtained. The minute prosing of poetry might prevent a right conception of poetic, as distinct from prose form, but this will not preclude the selection of such subjects as the story of Enoch Arden or Evangeline, of Portia in Merchant of Venice, or the trial of Warren Hastings in Macaulay. It will be well occasionally to require the reproduction of a story or sketch from a single reading by the teacher, as a training in attention. Another excellent exercise is to require pupils to write in class, upon some subject chosen beforehand usually, occasionally at the time. A definite time is allotted, as five or ten minutes, in which the pupil is asked to write clearly and concisely what he can. \* \* \* Pupils may be allowed to contribute news items, reports of entertainments, of lectures, even book reviews, editorials, speeches, under direction and suggestion of the teacher. A school paper, read once a month, will encourage originality and show some surprisingly good results. \* \* \* Bright pupils occasionally write good parodies or descriptive verses, and while the difference between verse and poetry should be clearly kept before them, some truer ideas of verse forms may be obtained than from the ordinary study of prosody. A form of composition too little regarded is letter writing, and some practical training in this belongs naturally to composition work. Good form without the extreme minuteness of books, neatness and care of details, may well claim a place and may help to revive an art more useful than any other, but sadly neglected many times.

#### ENGLISH LITERATURE.

The study of English literature has been much misapprehended. The greatest mistake is to suppose it a memory study of literary biography, with an occasional poem or fragment of prose. The root of the evil is in conceiving literary study as one of mere facts—of biography, history, philology. \* \* \* A great poem or a prose master-piece is the embodiment of a personality. That personality can be known only through the medium of sympathy. To develop this sympathy, this sensitiveness to the true and beautiful in a work of genius, is the aim of a true teacher. Only in this way is "conversing with the truth of things" possible. No process is more destructive to this develop-



ment of sympathy than the dissecting method. Analysis has its place, but synthesis is even more necessary. The union of the soul with truth is not affected by the process of pulling sentences asunder limb by limb, and assorting the members in piles of verbs, nouns, phrases. The spirit of literature is not susceptible to the scalpel of the pettifogging grammarian. \* \* \* Nor is the study of literature the study of history. Much of it has little historic connection. Only those historic facts that have a necessary and vital connection with literature add materially to the study. This is true also because literature in its essence does not belong to single epochs. It is so true to man and nature that it is not "of an age," but for all time. The study in our schools does not require a complete or comprehensive view. It will scarcely be best to take anything before Shakespeare, and it would be quite impossible to take up all the representatives of a single age. The right thing is to develop a true appreciation of the best English prose and poetry.

It will be necessary then to study single works of the best writers. There is abundance of material in cheap editions, with or without notes. \* \* \* In any case the pupil should study literature, not annotations, and judgment rather than memory should be enlisted always. Each lesson should be anticipated, points of interest indicated, relative value of notes, methods of preparation. Class work will vary with different teachers and at different times, but some suggestions from experience are made in the following:

1. *Reading.* The way to know Shakespeare is to read him, said Richard Grant White, and Dr. Johnson recommended reading without regard to minor details or difficulties. This applies in some sense to all literature. Every short poem should be read through at the start for completeness of view. This may be done out of school or partly in class, and there need be no fear that pupils will lose interest in further study. Besides, there should be much reading in class, even if it excludes some more technical study. Such reading is not to be elocutionary, but "clean, clear, simple, quiet voicing of sense and meaning." This is the method of many most eminent teachers in our country, and it will prove itself a rare means towards accomplishing the great object of literature in education, "to open the mind, to correct, to refine it."

2. *Study of Personality.* Literary study is on an author's "embodiment of thought," of his personality, his clearness of conception, his skill in narration and illustration, his imaginative power, his mental grasp. What is his idea of duty and conduct, of human society, government, religion? How does he interpret nature? Are his men and women



real flesh and blood? Is his view of life elevating? \* \* This vital life of the writer may not be revealed by a single work. Others may be suggested to be read in class or by pupils at home; so that while a single production is studied systematically, others will be read appreciatively, helping to reveal the writer's characteristic attitude.

3. *Character Study.* Many poems not strictly dramatic lend themselves to this study by exhibiting personal action and play of motive in some interesting phase. But character study belongs to the drama preeminently, and to Shakespeare as the great dramatist. Various plans will lend interest. A principal character may be assigned each student, for special study in reference to several important questions. In this it is important that the pupils judgment be allowed ample freedom. \* \* \* Interest in a single character may lead some to underestimate the importance of others and this must be corrected by the study of the drama as a whole.

4. *The Ethical Element.* Much will be beyond pupils of any school, but the vital connection of great thought and great action, of high aspiration and high endeavor, of right ideals and right conduct, will suggest something more than pleasure as the end of literary study. The suggestion is of something far different from moralizing, something more real and lasting—an enthusiasm for beauty in life, as in art for fair forms, as for harmony of numbers. The method should be unobtrusive, and is best suggested by Arnold, the great teacher, in the aim expressed in his history, “to be of use to the cause without actually bringing it forward.”

5. *Nature Study.*—We attribute to the poet a peculiarly vivid appreciation of nature, and we ought to gain from him a keener observation of the world about us. The poet emphasizes effects by representing nature in intimate sympathy with man. The interpretation of nature meets us in the poets, and the suggestion of it will be appreciated by pupils, when it cannot be studied completely.

6. *Textual Study.*—The study of syntax and diction is not of first importance, but it has a place. How does a poem differ from prose? A pupil's attention will be attracted by words new to him, or peculiar in meaning. Poetry preserves old forms, obsolete and rare words and uncommon constructions. A play of Shakespeare will show peculiarities of Elizabethan English. These require simple explanation, and will lead to the use of the dictionary as a standard for comparison. The life of words—not scientific etymology—will interest pupils if the study is made suggestive, rather than exhaustive, by attractive word-studies. Skeat's Etymological Dictionary (student's series)

and Trench's *Study of Words* (new edition), most stimulating books, are in reach of every teacher. \* \* \* Textual study should be used so far as it is a healthy stimulus and a corrective of inaccurate understanding. The old method of parsing and analyzing a book of *Paradise Lost* may have been beneficial, but it kept pupils from appreciating the great English epic.

7. *Literary Form.* This ought not to suggest one of the dreariest subjects—prosody. Simple verse forms of poems actually read ought not to be uninteresting. The pupil should see how the rhythmical accent emphasizes the thought, and indicates the pronunciation of an unknown word. The nature of the lyric as distinct from narrative or dramatic, the constitution of the sonnet, the elegy, the epic, form proper studies. Alliteration and various forms of rhyme may be pointed out, but not as the essentials of poetic form. Poetry is the *concrete* embodiment of thought and feeling. Its language is not direct but figurative. The study of this figurative language, without technical details, is better than text-book rhetoric. Poetry has a language of its own, becoming a natural language to the reader only by continued acquaintance. Minute analysis robs it of some of its most delicate charms. We should seek to comprehend poetic speech, in all its compactness and concreteness of expression, without the medium of prose.

8. *Prose.* This is more often neglected in school courses than poetry. It is more difficult to teach it well, owing to its greater diffusiveness and the less obtrusive charm of its construction. But great efforts should be made to create a taste for pure prose for its practical value, and to preclude pleasure in weak and sensational forms. \* \* \* A habit of reading may be soon begun, taste cultivated, and the pupil become capable of selecting with appreciation only best books. Young people will become interested first of all in fiction. On account of length, tales and sketches will be first used. These will lead to longer works, as those of Scott and Dickens, but fiction alone should not engross attention. Interest may be easily excited in travels, in important historical epochs, in biography, eloquence, essays. \* \* \* While interesting books are selected always preference should be given to those that belong enduringly to our literature. If contemporary books alone are used, most pupils will never know the treasures of the past.

A small body of prose can be read in class. Selections should stimulate interest in reading, not as a task but from choice. Pupils need help over the uninteresting places. \* \* \* A teacher may indicate portions to be omitted, sum up others, and start the reader where he will be certain to go on. Selections may be made of prose and



poetry treating the same subjects. \* \* Class work in prose will differ somewhat from that in poetry, because of fewer peculiarities of expression; but there will be new words, embellishments as in poetry, and many allusions to be explained. Examples will constantly occur illustrating principles in rhetoric. Practice in writing should go hand in hand with all work in literature. The number of subjects will allow each to choose those of special interest.

\* \* The pupil should keep permanently something from each work read. Passages may be memorized by all, and each pupil may select lines of special interest to himself. These will serve as touch-stones to test the value of all expression. The pupil should record such passages in a book for that purpose, thus making an invaluable collection, and one that may furnish many a thought not wholly devoid of vitality in his life.

The best teaching is that which is wisely suggestive. Many poets, not adapted to school use, have written single poems of great interest to young people. \* \* \* Similarly suggestive are the celebration of authors' birthdays; and programs of patriotic poems, poems of the sea, of interesting places, of notable historical events. This is studying literature from the outside, but it has its advantages.

The suggestion of many methods would be confusing if it were necessary to use a considerable number at one time. Every good teacher knows no plan is likely to be less beneficial. Teacher and pupil should have a definite aim in the study of each work, and the aim should not be manifold. At one time the aim may be textual study, at another rhetoric, at another poetic form, besides always the spirit, the personality, the central idea. The work may be divided into parts in which special forms of study are taken up. But in all cases the definite aim systematically carried out, while not preventing proper variety and incidental treatment of many subjects, will eventually give the best results.

The work specifically mentioned in the course as English literature may be considered from a somewhat different point of view. It occurs after the pupil has become acquainted with the history of his own nation and that of the world, after he has written and read, has studied rhetoric, civics and has acquired that maturity of mind which will enable him thoroughly to appreciate literature as a study; yet, even in this last year, it is not desirable that too much time should be given to study about litera-



ture. Some knowledge of its history is essential; some knowledge of the different periods and the characteristics of each should be acquired. It may not be well that all of one term be devoted to this kind of work, but perhaps one-third of the year might be given to it. Each period should be studied in connection with the works of the men who gave the characteristic tone to that epoch.

Beyond an acquaintance with Chaucer, there is little that can be found profitable reading in the period of literary preparation. But the history of the times, the growth of the language and the strange mixture of elements that came in to form it, will prove profitable and interesting and will relate itself closely to the historical studies of previous years. Later periods will not be fully understood unless the influence that continental nations exerted upon the English be studied. Though the tongue was formed and English was the language of its writers, yet the Italians, upon Shakespeare and Milton, and the French, upon Dryden and Pope, produced a most profound effect. Here again the history of literature relates itself to the history of nations. So that this year's study may be made a chain which binds together many of the isolated incidents with which the pupils have been previously acquainted. As a large portion of the reading done in the several grades has been from the authors of modern times, it will now be possible to devote a larger portion of this year to the writers of middle English.

### LITERARY READINGS.

Appended are two lists of books which are recommended for use under the title of "Literary Readings" in the several courses. The first is for those schools in which the three years' course only is used. These lists should not be construed as arbitrary, for in many cases material is so plentiful that it is possible that other books equally good will be more accessible. However, no course in reading has been recommended as preparatory to collegiate insti-

tutions during late years that has not included most of the titles mentioned below. It will be found that the four years' list includes the works which the advanced requirements of the state university make necessary in future preparation. An attempt has been made to balance the work well and to arrange the books somewhat in order of difficulty, with the idea that they will, in the year in which they are placed, be interesting to the pupil reading them. It is quite possible that many of the selections and some of the books have been read in the grades below and that it will not now be desirable to repeat them. Under such circumstances, a wise substitution may properly be made.

These are all books which it is well to read in class with the teacher. A list of books for sight reading at home should be made and by occasional papers from the pupils or by conversation with them, the principal may obtain definite knowledge as to the quantity and value of reading that his students are doing upon his suggestion.

It is intended that the reading should be continuous throughout the course. This does not imply daily recitation, but that possibly two or three times a week, as circumstances may justify, the class shall meet and study together some good English classic. It may not at all times be convenient to separate the classes of the different years. It may be found that the students can be better grouped in one or two sections without special reference to their position in the other studies of the course, bearing in mind always that by the time they reach their graduation high school pupils should have an acquaintance with at least the books mentioned in the list.

Elsewhere under the title of "English Literature" will be found some valuable suggestions which are applicable, though possibly in a lesser degree, to this reading work.

## THREE YEARS' COURSE IN LITERARY READINGS.

## FIRST YEAR.

The Great Stone Face—My Visit to Niagara,	<i>Hawthorne.</i>
Grandmother's Story—The Chambered Nautilus,	<i>Holmes.</i>
A Christmas Carol—The Cricket on the Hearth,	<i>Dickens.</i>
An Elegy on a Country Churchyard,	<i>Gray.</i>

## SECOND YEAR.

The Deserted Village—The Traveler,	<i>Goldsmith.</i>
The Sir Roger de Coverley Papers,	<i>Addison and Steele.</i>
The Merchant of Venice,	<i>Shakespeare.</i>
To a Mouse—To a Mountain Daisy—For 'a that,	<i>Burns.</i>
Enoch Arden,	<i>Tennyson.</i>

## THIRD YEAR.

Vision of Sir Launfal—Books and Libraries,	<i>Lowell.</i>
Gettysburg Speech,	<i>Lincoln.</i>
Julius Caesar,	<i>Shakespeare.</i>
Second Essay on the Earl of Chatham,	<i>Macaulay.</i>

## FOUR YEARS' COURSE IN LITERARY READINGS.

The first and second years are identical with those of the Three Years' Course.

## THIRD YEAR.

Poor Richard's Almanac,	<i>Franklin.</i>
Julius Caesar,	<i>Shakespeare.</i>
Vision of Sir Launfal—Books and Libraries,	<i>Lowell.</i>
Gettysburg Speech,	<i>Lincoln.</i>

## FOURTH YEAR.

The Bunker Hill Oration,	<i>Webster.</i>
The Second Essay on the Earl of Chatham,	<i>Macaulay.</i>
Behavior, or the American Scholar,	<i>Emerson.</i>
L'Allegro, Il Penseroso, Comus,	<i>Milton.</i>



## RHETORIC.

For a terms work in Rhetoric following the drill whose results are summarized on page 33 the following outline may be suggested. Any good text may be followed but the real aim of the work should be ever kept in mind.

The purpose of high school instruction in Rhetoric should be to put the pupil in possession of an art—the art of expressing himself in writing clearly, forcibly, and elegantly. But every art is acquired by practice, and practice is therefore of the first importance at every stage of the instruction. Rules and directions are of no value save as they serve to guide practice, and to learn them without at the same time applying them in abundant exercises is to waste both time and energy. \* \* \* \* \*

\* \* The most important caution is to avoid trying to carry the work too far. High schools ought not to attempt an extended study of Rhetoric. Their aim should be to fix firmly in the habits of the pupils the most essential practical principles of effective composition, leaving the refinements of criticism for subsequent study.

### THE AIM.

I. To have pupils understand sentences, paragraphs, and themes as to their construction.

II. To exercise the pupil in composition by instruction:

1. As to selection of subject.
2. As to collection of material.
3. As to mode of inventing and distributing matter in a clear and logical form.

III. To make an elementary study of style through practical exercises in clearness, imagery and energy.

IV. To prepare pupils to study models in connection with the various rhetorical principles and forms, that they may see a relation between practice and precept.

## THE WORK.

## I. In Invention:

1. Construction of simple and compound sentences, and of complex sentences with adjective, adverbial, and noun clauses.
2. Formation of paragraphs.
3. Analysis of essay subjects.
4. Preparation of frameworks for essays.

## II. In Qualities of Style:

1. Clearness—
  - (a) As to mastery of subject.
  - (b) As to use of words, whether reputable, national, and present.
2. Figures of Speech—the simile, metaphor, personification, antithesis, metonymy, &c.
3. Energy.
4. Elegance.

## REQUIREMENTS.

A pupil should be able

- (a) to make a framework of an essay within his powers;
- (b) to begin to form the habit of canvassing a subject, of reading reflectively upon it, of investigating it systematically, of extracting essential facts and setting them forth effectively;
- (c) to develop his theme;
- (d) to make a fair rhetorical analysis of a passage from a standard author, indicating all the elements of clearness, imagery, and energy.

## ENGLISH GRAMMAR.

The justification for this branch in a course of study is solely its utility in promoting skill and elegance in the use of the mother tongue. Coming to the high school, as we assume pupils will, well grounded in the elementary principles of composition, there is now offered them an excellent opportunity for the mastery of the important rules and principles of technical grammar. The aim in the instruction should be to secure a thorough knowledge of these principles and their application, without descending into the petty details with which our text-books are crowded. When teachers learn to discriminate in the use of the material that the books present, pupils will gain clear ideas in place of the confusion of half-related thoughts that now fill their minds. If the rules are comprehended and can be applied, the observations and exceptions will take care of themselves. Much of the minute classification in the grammars and many of the fine distinctions are for reference only and any attempt to learn them serves but to befog the mind and conceal essential ideas. Many peculiar constructions, knotty problems in analysis and hair-splitting discriminations in use belong to the grammatical gymnasium where experts assemble and not to the high school room.

Teach the pupil to recognize in common constructions the parts of speech and to know their principal properties. Teach him to consider the structure of his sentences and to justify their arrangement. Do this in practice and compel the understanding of every rule he is asked to learn. The book presents the rule bolstered up by a few examples. It is the teacher's duty to see that the rule appears in new lights, that abundant new illustrations are furnished and to continue his work not only till the pupil can use the rule but until he does use it regularly and intelligently.

Shall we parse? Certainly. We will not parse in set formula every word in order of its appearance till tiresome iteration wearies and disgusts the pupil. But parse we



will for by so doing we learn to see the word in all its relations to others in the sentence.

Shall we analyze? Most assuredly. We will analyze logically first, that the meaning may be clear, and then grammatically till words, phrases and clauses all take the position and rank the author intended. And here we will be careful to select the best examples we can find from the wide field of literature. It is from the thoughtful analysis of such that good diction comes.

Shall there be written parsing and analysis? Certainly not to the point where it seems a drudgery. Grammar would be interesting were it not for its obscurity and the wearisome labor connected with it.

Diagram? Yes, occasionally, as a variation from regular routine, but the diagram is not an end and many a pupil has been able to put his refractory parts of speech into the pens so ably built without any thought as the real meaning of his labor. "I don't know what the relation or use is but in the diagram it goes on a line below and is connected by a dotted line." Real sentential analysis should be as fascinating as the solution of a problem in mathematics and it will become so if we lay aside the refinements and subtleties of the too critical method together with the monotony and drudgery of useless repetitions.

Finally, the term is too short and it comes too early in the course to give the best results, but the objections to placing it elsewhere seem to be insurmountable. Its intimate relation to Composition will justify its continuance farther than the limits of the term and a good teacher will find abundant opportunities throughout the course in all branches to see that the laws are not forgotten nor suffered to fall into disuse.

## LATIN.

For the first work in Latin it is desirable to place in the hands of pupils as concise and simple a statement of the first principles as possible. Among many good books in use in this country are the *Beginners Latin Book*, by Collar and Daniell, and the *Easy Latin Method*, by Harkness. These are complete in themselves, containing forms, syntax and material for translation sufficient for nearly the whole of the first year. Many useful hints may be derived from the valuable lesson books of Tetlow and of Harper and Burgess, representing as they do the more extreme forms of the inductive method.

### PRONUNCIATION.

The correctness of the pupil's pronunciation of Latin will depend upon the accuracy of the teacher's pronunciation, quite as much as in the study of French or German. It is too often true that the only attention given to this subject is the memorizing of the rule that the penult is accented, if long, otherwise the anti-penult receives the accent. Even this rule is constantly violated in practice and accents such as *a' micus*, *effe' r'o*, *an' tiquus*, etc., are, unfortunately, commonly heard. Not only should most careful and persevering attention be paid to penultimate quantity, but the quantity of *every* vowel, when it can be ascertained, should be observed in pronunciation. Theoretically the only difference between the short and the long sound of the same vowel is one of time; but in practice this amounts to a slight difference in quality, which may be approximately represented by the following table of equivalents:

ă	as in	ask.
ā	as in	father.
ĕ	as in	met.
ē	as in	ey in they.
ī	as in	hit.

ī as in caprice.

ō as in wholly, not as in *holy*. A clearer, but less exact illustration is ȯ as in English *boss*.

ō as in note.

ū as in look.

ū as in tool.

From this it will be seen that a correct pronunciation involves a knowledge of vowel quantities. Indeed the only rational and practicable method of learning the quantity of vowels (a knowledge indispensable to any acquaintance with and appreciation of Latin poetry), is by means of sound, *i. e.*, correct pronunciation. It ought to be as impossible for a pupil to say *nōn mōdo* instead of *nōn mōdo*, as it would be in English to say a *wik pool* instead of a *weak pull*, to use an example given by the English phonologist, A. J. Ellis.

#### FORMS.

The necessity of a thorough acquaintance with the forms of the language is so obvious that it would seem superfluous to call attention to it here. Yet the fact is that no part of Latin preparation is more defective than this. The forms as contained in the lesson book or as referred to in the grammar must be absolutely mastered. Well-directed memorizing, followed by written exercises, dictation, oral practice and frequent reviews, ought to produce better results than have been generally obtained.

#### INTRODUCTION TO READING.

A good class with a good teacher ought to finish a lesson-book in time to do some work preparatory to Caesar in the first year; for in most cases the transition from an elementary book to Caesar is too abrupt. If Caesar is to be read immediately the teacher must exercise great diligence in anticipating the difficulties of the advance lesson and in striving by every means to make smooth the somewhat uneven path. But in most cases it is believed



that better and more rapid progress will be made by using a book such as Collar's *Gate to Caesar*, after finishing the elementary book. This work consists of the second book of Caesar in a simplified form, with vocabularies, notes and exercises, which, by familiarizing the pupil with the contents, vocabulary and idioms of the second book, makes the study of the unsimplified text an easy and pleasant introduction to the reading of Caesar.

#### COMPOSITION.

The purpose of this study, as pursued in the high school, is not to make Latin stylists, but to enable the pupil by use to make the forms and syntactical principles of the language more completely his own. The composition of a single Latin sentence, illustrating certain constructions or idioms of the language, will do more to impress these upon the mind of the pupil than half a dozen parsing exercises involving the same points. Latin composition may be pursued satisfactorily in two ways: (1.) By the use of a systematic book of graded exercises, such as Jones', Harkness' or Allen's, devoting one or more exercises of each week exclusively to this work; or, (2) by means of daily exercises based upon the Latin read in class. With the latter method the teacher may either frame English sentences from the review lesson for each day to be written by part of the class while the remainder are reading the review, or he may avail himself of the excellent collection of sentences based on the first four books of Caesar and five orations of Cicero, contained in Daniell's *Exercises in Latin Prose Composition* (Part I, Caesar; Part II, Cicero). This method has the advantage of securing a more painstaking daily review than can usually be obtained otherwise. It does not, however, cover the ground completely; for many special grammatical pit-falls do not occur often enough in the text of Caesar or Cicero to give the pupil sufficient familiarity with them. Special drill, therefore, on such sentences should supplement this method. The impersonal construction in the passive of

verbs followed by the dative, conditional sentences in indirect discourse, the indicative in the conclusion of conditions contrary to fact with verbs of duty, necessity, etc., and the periphrastic forms are constructions of the kind referred to. This method of teaching Latin composition will require untiring zeal on the part of the teacher and great economy of time in the class-room, but it will be rewarded usually by greater interest than most teachers are able to arouse with the systematic book and the weekly exercise.

In all instruction in Latin the pupil should be made to realize that the order of the Latin sentence is flexible, subject to considerations of emphasis and euphony. What the pupil positively learns about Latin order must depend on what the teacher knows or feels concerning it, for it cannot be learned from rules. Some good hints for the teacher are contained in the revised Latin Grammar of Allen and Greenough p. 386 h.

#### TRANSLATION.

An idiomatic and exact rendering into English of the thought of a difficult Latin sentence is perhaps the chief visible fruit of Latin instruction, and teachers who are not working to secure that end have in a measure lost sight of the goal. Literal translations are often indispensable by way of explanation and for purposes of illustration and not infrequently at the same time idiomatic, but they should always be accompanied by idiomatic renderings. "Translation English" is not only a painful thing to hear, but it breaks down that natural linguistic sensibility for English as well as Latin, which it should be the object of all language study to foster, and it gives most grotesque and unjust conceptions of the character of Roman literature in respect to that quality which is its chief merit, perfection of form.

Not only should good English always be insisted upon, but some effort, varying with the maturity of the class or of the individual pupil, should be made to reproduce the



style of the author translated. The succession of Latin authors read in school is all that could be wished in this regard. The straightforward, narrative style of Caesar may be reproduced without difficulty by pupils who have not read much in English. In connection with Cicero, translations may be improved and made more spirited by bringing out some characteristics of oratorical English, with examples from speeches of American orators. If Milton and Spenser are studied in the high school, the results of that study ought to contribute to better translations in Virgil.

#### FORM AND SUBJECT MATTER.

The Latin authors read in the high school afford a considerable field for the study of literary form and historical events. This should not be neglected. For example, in Cicero the pupil should be required to analyze the argument of the speeches read, and thus to obtain some conception of the form of an ancient oration. It is a good plan to call on some member of the class each day to give orally a synopsis of the review or advance lesson, or parts of it, and at the conclusion of any work the argument should be carefully read, so that each pupil shall carry away a definite idea of the work as a whole, both in respect to form and contents. Every high school library should be provided with a copy of Froude's *Caesar*, Trollope's *Cicero* and Sellar's *Virgil* (Macmillan)—the latter perhaps more especially for the teacher. By judicious reference to them much can be done to stimulate and maintain a living interest in the men whose works are read.

In conclusion, the attention of the teacher is directed to two pamphlets by Professor William Gardner Hale entitled "*Aims and Methods of Classical Study*", and "*The Art of Reading Latin*" (Ginn & Co.). Both will be found very stimulating and suggestive. *The Art of Reading Latin* sets forth admirably the only natural and rational method of studying a Latin sentence, and even if the teacher does not attempt to put into practice all the suggestions there



given, a careful study of the paper will do much to give him a truer conception of the way in which Latin is to be read and hence taught.

## GERMAN.

The time allotted to German in the high schools of this state is now two years. This time is sufficient for the following course of study:

1. Correct pronunciation.
2. The *essentials* of grammar and the ability to apply them.
3. Acquisition of a vocabulary sufficient to enable pupils to read and translate the reading lessons in any standard reader correctly and understandingly.
4. Practice in the oral use of German *in connection with the reading lessons*.
5. The memorizing of some German poems.
6. The careful study of at least two plays (Minna von Barnhelm, Der Neffe als Onkel, Die Journalisten, etc.)

## PRONUNCIATION.

I. (i) is pronounced like i in it and like the finishing sound of e in he; e, long, similar to English ay (pay), short, like English e (set). There is no difference whatever between "short e" and "short ae;" ch (ich) with soft palatal sound, not isch nor ik (Kir-che=church; Kir-sche=cherry); final g as a continuant ch; j distinctly buzzed y in yes; v=f; w=v in very; z=ts (the t and the s closely connected, but both pronounced strongly and distinctly); initial sp and st=schp and scht, in the middle and at the end of words=sp and st; th always=t. All final syllables must be clearly pronounced. Words mispronounced should be analyzed by sound (without the name) and not by letter. Ex.—Geldbeutel is mispronounced. Teacher: Give the first syllable; the second; how is eu pronounced? How do you pronounce the second syllable? the third? read the

whole word again! how many words? first? second? translate "Beutel!" (Reference book: Wm. Vietor, *German Pronunciation*, B. Westermann & Co., New York.)

#### GRAMMAR.

The following points of grammar should be emphasized during the first and second terms of the first year. The meaning of the different cases and their correspondence with the English; the declensions of nouns, of nouns qualifying adjectives, of the definite and indefinite articles or words declined like them, of nouns with adjectives alone, and of the personal pronouns; the comparison of adjectives; principal parts and conjugations of verbs; subjunctive and indirect discourse; the prepositions; order in sentences; and the leading principles of syntax.

Special attention should be called to the following: die guten, and diese, jene, meine, etc., solche, welche, alle, keine guten Bücher; and gute, and einige, etliche, wenige, manche, viele, einzelne, mehrere, andere, verschiedene gute Bücher; der (ein) Franzose, Däne etc., but der Deutsche, ein Deutscher, wir (uns) Deutsche, etc. The pupils should first understand the English should and would, shall and will, may and can, etc., on and upon, in and into, etc.; the modal auxiliaries; the difference between "he was here" and "if he were here," etc., and then the German equivalent should be explained and drilled. The ideas of place and motion, etc., should be developed and then practiced: in answer to the questions whither? how long? until when? the accusative, in answer to the question where? when? the dative is used after certain prepositions; when motion is conceived as having direction, a starting point, or a goal "sein," when only activity within a given space is thought of "haben" is used. The subjunctive is the mood of unreality, contingency, possibility; after glauben, meinen, denken, etc., behaupten, sagen, lehren, etc., the subjunctive is used in the third person present and perfect, (er fragte mich, wo ich wohne (not: wohnte), gewohnt habe,



wohnen werde, etc.; er fragte mich, ob wir mit ihm gingen, etc.)

(Reference books: Brandt, *Grammar of the German Language*, Boston, Allyn & Bacon. Lyon, *Handbuch der Deutschen Sprache*, Leipzig, Teubner. Heyse, *Deutsche Grammatik*, Hanover, Hahn.)

#### VOCABULARY.

Pupils should commit words to memory. All of these they should have seen as an integral part of a sentence. They should learn the nominative singular and plural of the nouns, and the principal parts of the irregular verbs. Attention should now and then be called to cognate words in English, to loan-words (Brief, Kaiser (Cæsar), schreiben, (reißen, ritzen), etc.; to derivatives (er, ner, ler: Raub, Burg, malen, wandern, etc.); to synonyms (Hitze, Feuer, Wärme, etc.; abdanken, sein Amt niederlegen, seinen Abschied nehmen, seine Entlassung nehmen, etc.; eigensinnig, eigenwillig, halsstarrig, starrsinnig, starrköpfig, hartnäckig, störrig, widerspenstig, etc.), to group forms, neologisms, phonology (umlaut, brechung and auslaut) etc. At first pupils should only translate from German into English.

#### READER.

The center of the work is the reader. The teacher should read, or translate, or explain, or give beforehand a brief synopsis of the reading lesson to the pupils. The reading should always be with clear pronunciation, with distinct articulation, and with sympathy and enthusiasm. Good reading is half explaining; where expression is wanting, there also impression fails. Nothing should be explained that the pupils can work out for themselves. Let the explanation be very brief, to the point and interesting. Occasionally a lesson in etymology is of great interest; (trink-e, trank, ge-trunk-en, trinken, ab, an, auf, aus, be, durch, er or, fort, etc., trinken. Trinker, Wasser, Wein, etc., Trinker, trinkbar, Trinkbecher, bude, gefährte, gefäss, geld, horn, kanne, lied, lust, etc. Trank,



Götter, Opfer, Zaubertrank, Getränk, tränken, ein, ertränken, Tränke, Trunk, Schlaf, Früh, Labetrunk, trunken, be, freude, sieges, wonnetrunken; Trunkenheit, Sieges-trunkenheit, etc.). Attention should now and then be called to the different meanings of words. (Hof: Der Hof befindet sich an dem Hause. Der Verschwender wird zuletzt von Haus und Hof getrieben. Der Fuerst, seine Familie und seine Beamten bilden den Hof. Der Edelknabe musste an dem Hofe eines Ritters höfische Sitten lernen. Höfisch heisst jetzt hübsch. Grüsse höflich! Höflichkeit ziert den Menschen, etc. Sehen: Der Mann sieht. Nach dem Essen, nach den Kindern sehen. Die Fenster der Wohnung sehen nach Süden. Diese That sieht dir gar nicht ähnlich. Du wirst dein blaues Wunder sehen. Sich satt sehen. Er machte ein freundliches Gesicht, etc. Fein: Der Faden ist fein. Eine feine Naht, ein feiner Regen, feiner Geschmack, ein feiner Mann, feines Gehör; es ist nichts so fein gesponnen, etc.). Pupils should read the lessons aloud at home, and commit every new word to memory. In the recitation room, the teacher should first hear the vocabulary and then the pupils should read and translate the lesson. They should read slowly and distinctly; every sound and every syllable should be clearly heard. If a mistake is made in reading, not the teacher, but the pupil should correct it, or, if he cannot do it, another pupil. After having read and translated the lesson, questions in German about the contents of the lesson should be asked. These should be clear, concise and definite (wer, was, wie, wo, warum, wem, wen(?) etc., should be used as often as possible). All "yes or no" questions and answers are worthless. The answer must always be given in a complete German sentence distinctly and correctly accented. The "promiscuous method" of calling on pupils to recite is always the best.

In reading the lesson, an analysis of the sentences, and a review of the main grammar points is necessary. For instance: the story "Der Wolf und der Mensch" is read. Wem erzählte der Fuchs etc.? What case? Why? Wohin brachte er den Wolf? What case? Why? Wo

war jetzt der Wolf? Wen brachte der Fuchs auf den Weg? Infinitive of brachte! principal parts! use the sentence in the present, perfect, future, etc. tense! Wer kam zuerst? What case? Why? Use the indefinite article! Translate: Our (my, his) old discharged soldiers! etc., etc. (Reference book: Kehr, *Theoretische-praktische Anweisung zur Behandlung deutscher Lesestücke*. Gotha, Thienemann.)

#### MEMORIZING POEMS.

Every pupil should be able to recite at the end of the course from nine to twelve poems intelligently and with expression. These poems must be prepared in class by means of repeated, careful and thoughtful reading. The following are recommended: Die Einkehr, Der gute Kamerad, Siegfrieds Schwert, Lorelei, Gefunden, Der kleine Hydriot. Der blinde König. Das Lied vom braven Mann. Der alte Barbarossa, Erbkönig, Der Sänger, Der Lotse, Die Auswanderer, Des Sängers Fluch, Die Bürgschaft. In several high schools there are classes of

#### GERMAN-AMERICANS

For those that speak German at home, the following course of study is recommended:

1. Acquaintance with the most essential rules of syntax.
2. Practice in correct oral and written language, and easy exercises in composition.
3. Introduction into German literature of the classical period.
4. Memorizing of selected ballads and memory gems.

Special consideration should be paid to etymology and the meaning of words.

## SCIENCE.

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The science work which is to be done in the high schools presents two phases to the principal. In the first place it may be a study of text-books, illustrated by such simple material as is readily found at hand and made pertinent and clear by frequent reference to the common experiences of every day life. Again, it may be scientific teaching. Its purpose first of all is to train pupils to see, to describe what they see as they see it, and then to reflect on what they have seen. The pupils may observe and experiment for themselves and from the results of these experiments they may draw the conclusion which reason seems to warrant. If science teaching is to give mental discipline and power, the pupil must be taught by being brought directly into contact with things and led to obtain his knowledge of facts from careful observation of nature and natural phenomena. The text-book must be kept in the background and become merely an aid and not the source of knowledge. Pupils should be required to draw what they see, and not the diagrams of the text-book.

It seems that some definite plan as to the teaching of certain branches should be suggested, that progress throughout the state, so far as is practicable, may be uniform. It is the opinion of leaders in science, as they have repeatedly expressed themselves in consultation with the department, that botany and physics offer the best possible opportunities for science teaching of the second class. The study of botany trains the faculty of observation. The study of physics develops its own peculiar style of reasoning from the data obtained by experiments. Accordingly the work which may be done in those two branches is outlined in considerable detail, while in the other branches of the



science course, viz: physical geography and physiology, the better class of text-books may prove a sufficient guide. The almost universal opinion of specialists in the several schools to which the graduates of high schools ultimately find their way, is that it is incomparably better to teach one or two sciences broadly and well than to try to give instruction in many lines. The pupil who is to have no further education than that afforded by the high schools, will unquestionably acquire a more scientific habit of thought and will receive greater benefit by confining his attention to a limited range of subjects. There are few schools in the state which can profitably take more than the four branches named.

While it cannot be expected that men and women conducting from seven to ten recitations a day will be able to do all that ought to be done in teaching any one branch of science, yet it is hoped that each teacher will keep the ideal method in mind and work toward it as circumstances will permit.

## PHYSICAL GEOGRAPHY.

In teaching this subject the instructor must keep in mind certain conditions and limitations which surround the pupil:

1. This is the only study in the first year's course which makes any considerable demand on the pupil's ability to read; and, as a rule, pupils in this grade have not yet learned to read, i. e., to get thoughts easily and accurately from the printed page. Hence the text-book assignments in this branch must be dealt with as reading lessons for thought analysis until the habit of seeking first to get the author's exact meaning is firmly fixed. Mere memorizing of the text should not be tolerated, nor is much questioning necessary in recitation. The topical method of recitation is especially suited to this subject, and pupils should be trained to give the substance of whole paragraphs in words of their own choice.

2. Since this is the first study in the course which has to do with natural science, it will be necessary to introduce certain topics by preparatory lessons in elementary physics, in order that the causes of phenomena may be made plain. Thus a few lessons on heat, illustrated by simple experiments, its transmission and its effect on gases should precede the study of winds and precipitation.

3. To obtain the best results considerable field work should be done. Examples of erosion, deposition of silt, effects of drainage, causes which determine direction of streams, the relation of soil and drainage to vegetation, will be better understood if studied on a small scale from natural objects.

## BOTANY.

The radical defect of the older teaching lay in the failure to *study the plants themselves*; in the failure to *treat them as living organisms*; and in the failure to *take into account the existence of other plants than the flowering ones*. Teachers who are to be up to the times should therefore give special heed to these three points. No plan or outline can be given which will be universally applicable. Modify the suggestions here given in accordance with your own attainments and the needs of your pupils, but in all cases hold fast to these three cardinal principles.

A proper room, *i. e.*, one which can be used as a laboratory, and a small amount of apparatus, are as indispensable for the study of botany as a recitation room and a black-board for mathematics.

### ROOM AND APPARATUS.

The room should be furnished with a sufficient number of common kitchen tables (those with unfinished tops are best), at which two students can work comfortably, and even four if crowded. The more windows the better.



The apparatus required is simple. Simple lenses with some device for supporting them while the hands are used in dissecting are needed. The three-legged mounting for bank-note lenses will answer the purpose. A most effective and low priced dissecting stand, which is in use in the University of Wisconsin and is to be preferred to more expensive ones can be procured from the Bausch & Lomb Optical Co., Rochester, N. Y. (Stand T of their catalogue. List price \$2.00 with probable discount.)

A deep individual butter dish is necessary for examining specimens in water. Each student should have a pair of needles (No. 6, "sharp") with the eye-end driven into soft pine handles. This can be done by holding the needle with a pair of pliers and forcing it in. The pupil should be required to provide himself with a *sharp*-bladed pen-knife, a rarer article than might be supposed.

#### HOW TO GET MATERIAL.

Begin with a study of the flowering plants. There will be room for the exercise of some ingenuity in getting pupils to provide proper material for study by raising some and collecting some. Lima beans, sun flowers and corn can be grown in pots or boxes; window gardens, greenhouses and provision stores can be drawn upon until the spring opens. But it is better to have material collected in the summer and preserved in alcohol. Such material should be studied in water to prevent drying and to remove brittleness.

#### HOW TO BEGIN.

It matters little what part is selected for a beginning. If the study commences in winter, the shoots of trees, two or more feet long, may be used. Select a tree in which the scars left by the fall of the foliage, leaves and bud scales of the preceding season are quite conspicuous, such as the cottonwood, poplar, hickory or horse-chestnut. Set the students at work to examine these before they have been assigned any study in the book. Have them ex-



amine all the markings they can find; compare the buds; study the relation between the buds and the scars; determine the extent of the preceding season's growth and of the season before that. When as much as possible of the external anatomy has been seen, let them *carefully* dissect the buds, studying the nature and shape of the scales: the character of their surfaces, whether hairy or resinous; the young foliage leaves for the next season; the young stem, comparing the shoot for the coming season with last season's growth, noting the differences and resemblances. This dissection should be made both by tearing off the parts, and by cutting thin slices crossways and lengthways with the knife. At the outset much, indeed most, of the dissection will be chiefly remarkable for haste and consequent carelessness. Insist on slow, painstaking study from the first.

When the students have seen everything that they think there is to be seen, let them write a description of what they have observed. They should be asked to make this description terse, using their own language and not resorting to the book for terms. The teacher should then examine these descriptions, in which he will doubtless find much omitted. Make the study of the same shoot the subject of the next class exercise, in which point out each feature that ought to be examined, giving sufficient time for the inspection of each part. Endeavor to show that for the circumlocutions in their descriptions there are often single words (technical terms). The pupils will thus come to know something of the method of accurate and thorough observation, and will discover that technical terms are not hard words invented for their discomfiture but short ways of expressing the ideas gained.

At the close of this exercise call upon each pupil to draw carefully a portion of the shoot enlarged showing as many of the facts observed as possible. Drawings should also be made of the dissected parts. Here the teacher may be met by the objection on the part of the pupils that they

cannot draw; but as that is only another way of saying that they cannot see accurately, he will have to insist on their doing the best they can, with the assurance that as power of accurate observation increases the accuracy of the drawings will increase in the same ratio. He should be able to lead here as at other difficult places. Happy he if he be not a blind leader of the blind.

After studying several other shoots in the same way, and not till then, assign the lesson in the text on buds and branching. Supplement this by talks about the functions of the parts, the causes of the markings, etc.; or by readings to the class; or require reading by members of the class on the topics studied. For example, on buds and branches, see Sach's *Physiology of Plants*, pp. 41-43; Goodale's *Physiological Botany* pp. 444-445; Gray's *Structural Botany*, Newell's *Outlines*, Lesson 4 and Reader I.

The points specially emphasized here are: 1. Study of the plants themselves. 2. Drawing and describing observations. 3. The study of the text-book. 4. Supplementary readings, particularly as to the function of the parts studied.

#### TOPICS FOR FURTHER STUDY.

Following this method with each organ, the following topics are suggested:

*Underground stems:* Potato (tuber); onion (bulb); cyclamen or Indian turnip (corm).

*Structure of stems:* Cut thin slices of both herbaceous and woody stems and examine in water. Bean, sunflower, geranium, hyacinth, corn (or any grass) and twigs of forest trees may be used.

*Leaves:* Structure of blade and petiole; forms of stipules; character of venation, particularly with reference to function of veins. Reference readings on the function of foliage leaves are particularly important. Study of the unfolding leaves in spring is specially desirable.

*Flowers:* Parts; forms; flower clusters, etc. It is not necessary here to enter into details as to these parts, since



they are treated fully and have always received over-much attention because of their importance to classification.

Let it be remembered in the study of all these topics that it is not a memorizing of the technical terms of descriptive botany that is wanted, but a study of structure of the parts with reference to function. Insist on the pupil constantly asking himself, "What is this for?" As to technical terms, if they are not acquired as a convenience they are better not acquired.

For assistance in guiding the observations of pupils see Newell's *Outlines of Lessons in Botany* (Ginn & Co., Chicago, Parts I and II, \$1.45); also Hall's *Botany for Public Schools* (Sherwood & Co., Chicago). The latter introduces an unnecessary number of terms and teachers must beware of the physiology incidentally taught. The preface is especially commended to attention.

Some schools have divided botanical work so as to have six weeks of the time come in the autumn. In such schools it is suggested that the study be begun then, devoting the entire six weeks to the thorough examination of the structure of one plant, say a sunflower, or a fern. The teacher can take this opportunity for a general preview of the whole subject. But if it is preferred to have the beginning occur in the winter or spring, take this time for a study of lower plants, which should not be omitted from any course.

For this work full directions cannot be given. Teachers can make plans for the work by consulting particularly Bessey's *Elementary Botanical Exercises*, (J. H. Miller, Lincoln, Neb., 35c.); Arthur, Barnes & Coulter's *Handbook of Plant Dissection*, (Henry Holt & Co., N. Y., \$1.50); and Campbell's *Structural and Systematic Botany*, (Ginn & Co., Chicago, \$1.25). Bower's *Practical Botany*, (Macmillan & Co.) and Strasburger's *Practical Botany*, (trans. by Hillhouse, Macmillan & Co.) will also be found helpful.

Every teacher should have some book with directions for preserving plants. The following are available: Bailey's *Collector's Handbook*, (Bates, Salem, Mass.); Penhalow's *Botanical Collector's Guide* (Renouf, Montreal);



Knowlton's *Directions for Preserving Recent and Fossil Plants*, (part B, Bulletin 39, U. S. National Museum).

## PHYSIOLOGY.

The subject of physiology is the body considered as a working machine. The method of its working should be taught—not merely its structure. Hygiene is the art of furnishing to the body the best conditions of work.

The tissues are the elementary machines, or the framework in which these work. Muscle, nerve and gland are the chief members of the first group.

Physiology shows three main divisions:

1. The handling of the food and the disposition of waste—nutrition, in the broadest sense.
2. The expenditure of energy—motion, heat.
3. The correlation of work, internal and external—nervous work in general.

In discussing each of these divisions, attention should be directed to the underlying principles, rather than to the details of the processes.

The relation of food and waste, the place of oxygen among the foods, the reason why proteid food is necessary, the significance of waste in the life of the body, the origin and fate of urea, are a few of the topics generally neglected, but necessary to a clear view of the subject. The mechanics of circulation and respiration should be carefully studied. In the former, the significance of arterial pressure is usually neglected. In the latter, the way in which the oxygen is used should be studied, as well as how it gets into the lungs.

The gland should be studied as a machine for doing chemical work, and the analogies between muscle and gland should be made clear.

The student should know what a waste substance is; why it is such; how it became a waste; and how it is disposed of.

Under the second head some attention must be given to the idea of the correlation of energy. The body's supply of energy and its expenditure of energy must be made plain as well as the income and the outgo of matter. Students must not think that matter is turned into energy.

Under the third head, the functions of sense-organs, nerve and central organ must be carefully distinguished. The student must learn why the blind spot in the eye is blind as well as the fact of its existence. Attention should be given to making clear the working principles of these organs rather than to the detail of structure.

It is often well to introduce a class to this study by dissections, that the pupils may obtain some general ideas of the plan of an animal, its organs and their relation. It may be found necessary in most instances for the teacher to make the dissection while their pupils draw and take notes to be written out in full in their books. Later, as the class takes up new subjects the teacher may encourage the pupils to dissect for themselves if there is sufficient material. These dissections should be less general and extended to minuter details than before and should be recorded by the pupils as at first. Usually material may be had of the butcher if he is given sufficient notice. The teacher will find *Martin's Human Body* (Elementary Course) very helpful in suggesting methods and experiments.

Teachers should consult the *Manual for Common Schools*, page 82, seventh edition, for further suggestions. *Martin's Human Body* (Advanced Course) will be found a valuable book for reference.



## PHYSICS.

Satisfactory results in this branch cannot be obtained in less than a full school year.

It is desirable to have a room that can be used as a laboratory, but if such a room is not available tables may be placed in the main room, in a hall or in a regular recitation room. Where the main room is used it is better to place the tables behind the pupils who are studying.

Every school should be furnished with a few pieces of apparatus and material from which simpler pieces may be constructed. Great care should be exercised in selecting the apparatus, especially where the funds at command are limited. If liberal appropriations are available the more useful pieces may be duplicated and arrangements made for extended quantitative work. Many of the more expensive articles are of little value except for show purposes, and should be purchased only after the essentials are supplied. The object of the experimental work is not to make a brilliant spark fly between the poles of a complicated electric machine, nor to break with a resounding crash a piece of rubber stretched over the hand-glass on a costly air pump. To discover, demonstrate and fix in the mind the laws of nature are the purposes to be kept in view. In the majority of cases this may be done very simply, very effectively and with little expense and trouble.

Teachers are usually so busy with other work that time will be saved by training one or more of the pupils to assist. Almost every class contains some one of natural tact and ingenuity who may greatly assist both teacher and pupils while he derives personal benefit from the additional opportunities.

It is not usually desirable to put into the hands of the pupils one of the published *Laboratory Manuals*. These are generally poorly adapted to local conditions and are apt to be more troublesome than beneficial. Every teacher must be a law to himself and, using all the manuals and good



texts he can possibly procure, he must lay out in detail the work of his classes and adapt it to the material at hand and the conditions under which the pupils labor. By means of a mimeograph, a copying pad or the blackboard he can place before the class directions for their work and make such pointed interrogatories as will set the thoughts of the pupils in the right direction.

Each pupil should perform for himself the experiments prescribed except in those cases where more will be gained from the discussions resulting from two or more working together.

In neat note-books, the pupils should record in detail, illustrating by outline sketches of the actual apparatus used, descriptions of the experiments, results obtained, inferences drawn and principles established. In all quantitative work great care must be used that the results contain the least possible percentage of error. In this way every topic should be treated before a text-book is given to the pupil. The book is for reference, is to assist in gathering up lost threads, and in knitting together and systematizing what might from the laboratory method alone be disintegrated and unrelated.

Laboratory work without capable and constant supervision is a delusion and a snare. It leads to careless habits of observation and to loose thinking. Pupils are not to blame. They are too young to know how to act and how to think. It is the province of this study to give them the power to do and to think, and that teacher is derelict who contents himself with teaching a mass of facts, or allows his pupils to "putter" about the laboratory and gain slovenly habits of thought and of action.

The laboratory should be a model of neatness. There is no excuse for dirt and disorder, and no worse lesson can be taught than that given by the slovenly worker.

While time is necessary in the laboratory too much should not be devoted to work with apparatus. Keen, piercing questioning should follow every series of experiments. Descriptive recitations, demonstrations of princi-

ples, off-hand blackboard sketches to illustrate apparatus used or to show results of experiments should all have a prominent place. The mathematical side of the study should not be neglected and accuracy of result should be insisted upon. Arithmetic, Algebra and Geometry should all be called into play and Physics should be made to show the practical application of all those branches. Nearly every topic must be a severe test of mathematical reasoning and accuracy of calculation.

Teachers will find the following texts filled with valuable suggestions: Shaw's *Physics by Experiment*, Chute's *Physics*, Hopkin's *Experimental Science*, Edward's *Hand Book*, Mayer's *Sound* Mayer's *Light*, Dolbear's *Matter, Ether & Motion*.

#### SYLLABUS.

1. It is usually best to follow the order and sub-divisions of topics in the text-book in use.

2. The molecular theory must be thoroughly understood by the class so far as the more elementary conceptions are concerned, though it may require time and a broader acquaintance with physics to accomplish this.

3. The properties of matter may be best taught by appealing to knowledge already acquired from experience. Pupils should be required to give numerous illustrations which have come under their personal observation. Extension and other properties furnish excellent opportunities for quantitative experiments.

4. The laws of gravitation and weight may be taught from the book and fixed in the mind by the solution of numerous problems.

5. The laws of motion, of the pendulum and of falling bodies may be readily developed by the class. In these sections of the study, as elsewhere, are offered excellent opportunities for home experimentation, each pupil preparing his own apparatus, describing and illustrating it thereafter. Rigid questioning in the class-room can be depended upon to guard against errors and carelessness. Self re-



liance is a good quality to cultivate. Where classes are large or facilities insufficient, much practical home work may be prescribed throughout the year.

6. Pupils and teacher may readily make nearly all apparatus to illustrate the laws of simple machines. The greater the friction the heavier the weights necessary. Much interest may be created by requiring the pupils to sketch and give the mechanical analysis of machines in use at home. A great variety is thus obtained and interesting and profitable discussions arise. Nothing is too homely for use. The carpet-sweeper, the wringer and the washing machine, the egg-beater, the monkey-wrench, the coffee-mill and a score of other familiar machines may be utilized. Of what use is it? What principles are involved? How is power applied? What is gained and wherein lies the corresponding loss?

7. The fundamental principles of hydrostatics may be illustrated in several ways with very simple apparatus. Pupils should be required to find the specific gravity of several different substances, both liquids and solids, heavy and light. All definitions and laws should be thoroughly memorized. The coarser the scales the heavier and larger should be the objects weighed.

8. Pneumatics may be well taught without an air pump, but one is very convenient. By means of glass tubes and rubber one can accomplish much, but the apparatus mentioned in the list is very helpful especially so the working models of pumps.

9. No field offers better facilities for experimental work than does electricity. No expensive apparatus is necessary, however charming. Frictional electricity is apt to be too much elaborated. A simple plate machine is better than a more complicated one, though neither is essential. The theories of conduction, induction and condensation should be mastered and pupils should know the few practical applications of them. Glittering experiments may create a temporary interest but physics is not a display study.

Not much expensive apparatus is necessary to teach Vol-



taic electricity. The inexperienced teacher will find the surest way to a clear understanding of apparatus and the facts and laws of electricity through making the most of the apparatus used. This cannot be too strongly recommended. If the laboratory is not supplied with a plunge battery of four or more cells, one may easily be made. It is desirable that the school be supplied with a Leclanche, a gravity and a Bunsen's cell for illustrative purposes.

The facts and the theory of currents induced by other electric currents and by magnets should be thoroughly illustrated, and the class should be so drilled as to acquire a mastery of what is taught. The principles of the working of the dynamo, the telephone, the telegraph, the phonograph, the motor, the storage battery, the arc and the incandescent lamps should be learned, if possible, from actual observation and experiment. No teacher should hesitate to take his class where the members can see these machines in operation. Almost every town affords some one of them, and access thereto is rarely denied. When these machines have been seen, diagrams representing them should be drawn. This practice will greatly assist the formation of clear and definite ideas.

10. The theories of sound, heat and light should be taught experimentally and in the order mentioned. A little ingenuity will enable the teacher to demonstrate nearly every principle with very inexpensive apparatus. Each topic should be subdivided and each set of experiments followed by careful discussions. The similarities and differences in the character of the motion that manifests itself in sound, heat or light should be carefully correlated. The molecular theory may now be made clear, if not previously comprehended. When considering mirrors and lenses much drawing should be practiced till principles are understood and can be demonstrated by figures with mathematical exactness. While off-hand work is elsewhere desirable, here the drawing should be as exact as possible.

The elementary facts of color and polarization may be

taught with simple apparatus. Expensive polariscopes are not necessary, however convenient. A pocket spectroscope should be obtained.

11. The course in physics may be shortened at first by omitting some of the more difficult discussions, especially if the teacher possesses no means of experimental illustrations. But under no circumstances should the discussion of work and energy be slighted. The class must be led to perceive the transformation of one form of energy into another under whatever form it may appear. The relation between work and energy must be kept constantly in mind.

Finally, that teaching of physics is best which causes the pupils to see clearly, to do well and to think closely, and this result can never be attained except by hard, enthusiastic labor on the part of the teacher.

#### APPARATUS.

The following list of apparatus is recommended as essential. All the pieces mentioned have been examined by a member of this department and pronounced well adapted for use in the average high school. It is not to be supposed that this list contains all the apparatus that is desirable. The pieces here enumerated are those not easily constructed, and for which it is not easy to substitute anything else. The number following each article refers to the number in the catalogue of the house that seemingly has the most serviceable piece of apparatus. The reader will notice that but two Chicago supply houses are mentioned. Other firms such as Queen & Co., of Philadelphia, will furnish similar pieces. The prices are net and may be subject to some variation, but will be serviceable in making estimates.



## McINTOSH BATTERY &amp; OPTICAL Co.

Model of a steam engine—Machinist's Friend—No. 1 ..... \$2 50

This model shows the essential parts of a steam engine in position and how they work.

Clinical microscope No. 1—with society screw, fine adjusting screw, one eye piece and 1 inch objective ..... 20 00

With polished case (M 8)..... 21 00

Combination specific gravity and chemical balance with two long and one short pan and hook (300) ... 6 00

1 set metric weights 50 grams down (4105)..... 75

Lever air pump—3 valves, 8 inch plate (505)..... 21 00

Bell jar, 8 inches diameter (533 or 559)..... 1 50

Magdeburg hemispheres, 4 inch stop cock and stand (521)..... 3 50

The last two are attachments for the air pump.

Barometer tube, heavy glass (391)..... 50

Pipette for mercury (4545)..... 10

Needed for filling tubes with mercury.

3 lbs. mercury and bottle (the price varies with the market)..... 2 55

Marriotte's Law Apparatus, (691).....\$ 3 00

Mariotte's Tube only, (689) ..... 60

Set of three single, two double pulleys, weights and wheel and axle, (215 & 217)..... 3 00

Pair of bar magnets with keepers, 6 in., (2437)..... 60

Magnetic needle, on stand, (2469)..... 50

Electrophorus and catskin, (22 7) ..... 3 50

Leyden jar, 1 qt., (2335) ..... 1 00

Telegraph sounder on base, (2225) ..... 3 50

Telegraph key ready to mount on base, (2227)..... 3 50

Geisler's vacuum tube, 6 in. long, (3101) ..... 60

Geisler's vacuum tube, 8 in. long, (3109) ..... 80

Electric bell, (3839)..... 75

Double convex lens, (reading glass) 4 in. in frame, (1527)..... 1 50

3 oz. alcohol lamp, (703)..... 25

Glass tubing per lb..... 30

3-16 rubber tubing per ft..... 08

Retort stand, 2 rings ..... 40

Iron clamp, adjustable..... 55

Florence flasks, 1 pint..... 20

Funnel glass, 4 oz. .... 08

Glass model of lifting pump, (311)..... 1 25

Glass model of force pump, (313) ..... 1 40

Insulated copper wire, No. 16, (2909)..... 80

½ lb. insulated copper wire, No. 30, (2115)..... 70

Toepler & Holtz electric machine, (2249) ..... 24 00

The last is an interesting addition to the list but is not an essential.



W. A. OLMSTED.

Glass cylinder graduate 500 cc. to 5 cc.....	\$1 20
Glass cylinder graduate 25 cc. to 1 cc.....	33
2 spring balances 48 oz., in ounces.....	42
2 spring balances 24 lbs , in pounds.....	42
Chemical thermometer 200 c. Scale on stem, (844).....	1 40
Rotating machine with centrifugal apparatus, (304).....	4 55
Galvanometer, (1576).....	4 90
Glass friction rod for electricity, 22 in. length.....	30
4 cell plunge battery, (1796).....	9 00
Primary and secondary coils, movable, (1808).....	5 25
Ruhmkorff's coil, $\frac{1}{2}$ in. spark, (1818).....	8 40
Siren disk, (348,) to be used with rotating table.....	1 40
Pair of large tuning forks, one on resonant case, (976 & 978).....	3 15
Convex and concave mirror, (1122).....	2 45
6 in. school prism, (1146). ....	42

## PSYCHOLOGY.

The study of psychology in the high schools must necessarily be quite elementary, aiming only at acquiring such knowledge of the mind as will aid in the understanding of literature and in the direction of the training of the young. The study, however, should be more than the mere learning of a text. Students should be led to verify, so far as possible, from their own experience and from their observation of others the principles presented, and to accumulate from their reading illustrations of them.

The most important topics for study are the following: the senses and the acquisition of knowledge through them; the nature of attention and the manner of training it; the laws of association of ideas; imaginative constructive-ness, both original, as in invention and composition, and secondary, as in reading or in following the directions of another in drawing or work; classification and the formation and correction of concepts; the reasoning processes and the ways of training in them; and the development of the mind, involving an apprehension of the stages in its unfolding from infancy to maturity, and the proper adjust-

ment to them of methods of teaching. The subjects related to the emotions and the will are at present in so unsatisfactory a state as to make it very difficult to give instruction upon them, and they may therefore be omitted, or discussed only in a very general manner as related to the formation of character and hence to right discipline.

In addition to the text used with the class, teachers will find the following books especially useful for reference on this subject: Murray's *Handbook of Psychology* or Sully's *Outlines of Psychology*; Carpenter's *Mental Physiology*, especially chapters 3-12; and for the emotions and the will, Bain's *Education as a Science*, ch. 3, and J. M. Baldwin's *Handbook of Psychology*, vol. 2, chapters 6-16.

## PEDAGOGY.

The law of the State requires that instruction in the Theory and Art of Teaching shall be given in all free high schools receiving aid from the State; and the courses of study for such schools recommended by the Department of Public Instruction indicate classes in this subject during the spring term of the last year of the course. The purpose of these provisions is a practical one. Many pupils of the high schools become teachers immediately after completing their school studies; and the importance of the work which they essay to do, as well as the number who enter upon it, justifies the effort to furnish them in the free high schools some special preparation. It is believed that the reflex influence of this instruction upon the high schools will be beneficial, especially in two ways: First, by stimulating the teachers in them to a more thorough and continual study of their art; and, in the second place, by helping to develop in the schools a deeper sense of their close relations with practical life.

The aim of the instruction in this branch should therefore be eminently practical. The experienced principal should seek to impress upon those who are about to make their first attempt in teaching such views of organization,



management, methods of teaching and the principles underlying them, as he has found to be most fundamental and valuable. These principles and practices he will find formulated for him in special treatises upon the various topics, but their value and importance will have been brought home to him by his own experience. As Lord Bacon says: "Studies perfect knowledge, and are perfected by experience." Experience alone will not fit a teacher to give instruction in this branch; it is not likely that by it he will be prepared to formulate, and reduce to right proportions and relations, a body of doctrine which would be wise, consistent and practically useful; but his experience should enable him to appreciate truth formulated by others, and to make his presentation of it real and vitalizing. The following books are especially recommended to principals as useful in preparing themselves for this instruction: White's *Elements of Pedagogy*—Parts 2, 3 and 4; Page's *Theory and Practice*; Swett's *Methods of Teaching*; Fitch's *Lectures on Teaching*; Raub's *School Management*.

The following outline will serve as a guide for the general conduct of the work. The chief difficulty will be found to arise from the unreality of it to the pupils. Their lack of practical contact with the problems involved, and their imperfectly formed habits of reflection, make it difficult for them to deal fruitfully with the subject. This difficulty will best be overcome by approaching it first through observation of actual work, followed by class exercises for the discussion of the same. The observation, in order to be profitable, should be guided by questions proposed beforehand by the teacher; the pupils' report should be written, and limited strictly to observations bearing upon the topic assigned. The reports should be properly made in an exercise book kept for that purpose, in which, in the beginning, entries should not be made until after the first draft has been suggested to criticism. In the class work following, it should be the teacher's purpose to develop reflection, and not to pour in information.



## I. OBSERVATION.

*I. Order.* What is the plan of seating, and what are its advantages? How do the pupils come into the room? How are the movements of classes, etc., managed? What arrangements prevail as to requests by pupils?

*II. Control.* How does the teacher secure the attention and obedience of the school? How is the giving of general orders managed? How are individuals restrained? What is the tone of the school and how is it secured? What does the teacher accomplish by a look, a gesture, a quiet word? What reproofs have you noticed? What suggestions? What punishments? What rules do you find in force in the schools?

*III. Organization.* How many grades are there in the schools? How many recitations has each? What studies? What are the pupils doing in each? What is the programme, and what does it show? Are the pupils kept busy? How? What employment is provided for each division of time, and how are they kept at it? What general exercises are there? Does the programme provide sufficient variety of work and allow sufficient movement to rest the pupils?

*IV. Recitation.* What was the subject of the recitation, the ends attained and the plan by which they were attained? What rules of order prevailed in the class? How was the work adapted to the needs of individuals? How was the whole class kept busy and interested? Was there emulation in the class, and how was it managed? Observe the assignment of lessons to see (a) how long they are; (b) what directions are given for preparing them; (c) what helps are given in advance; (d) what motives are called into play to secure study.

In giving directions for these and other observations the high school teacher will, of course, instruct the class in whatever may be necessary for them to know in order to observe intelligently.

## II. THE MANUAL.

*I. Preparatory.* What is a course of study and what should it show? What branches of study must be taught in elementary schools? What advantages are there in favor of adopting the course provided in *The Manual*? (a) It is systematic and progressive; (b) it is divided into clearly distinguished forms or sections; (c) into which admission is gained by passing certain definite tests; and (d) it is the result of long experience and study.

*II. Plan of Study.* (1) What the forms are, their limits and the tests for passing from each. (2) A general view of the whole course, to show (a) the systematic progress secured throughout the course in each of the leading branches, as arithmetic, reading, language lessons and geography. Let the purpose be to grasp clearly the order in which the different parts are taken up, and the advantages of this. (b) The relation of the different branches to each other, as when geography is introduced and why, when and why history, grammar, constitution. (3) Methods. The scheme in *The Manual* affords the basis for general instruction in methods. It ought not to be a mere exercise of the memory, as will be the case if pupils are required to follow some text-book. Neither ought the work to be carried out in detail, so as to outline all that is to be done in the school. Let the brief indications of *The Manual* rather lead often to the particular question how, and the suggestion of various ways by pupils and teacher. Seek to form clear ideas of (a) what is the end to be attained, (b) how it may be attained, and (c) frequently also why it should be attained. Parts II and III of Swett's *Methods* will be found very useful for teachers in this work and many of the suggestions and practical exercises may be introduced profitably into the class, but the book is one to be consulted, not committed. Fitch's *Lectures*, from the fifth on, are valuable to the teacher of the class as they are more coherent, systematic and philosophical. The teacher should be familiar with



these before undertaking this instruction. It will be found most convenient to follow the order of the manual, taking up first the primary form, then the middle and finally the upper, that the general characteristics of teaching in each form may come out as distinctly as possible. Observation in the elementary schools may profitably be resumed during this work, the amount of it being determined by its helpfulness in enabling the pupils to profit by the instruction.

*III. Supplementary.* Progame and how to make one. Records, what kinds, what they should show, and why and how to keep them.

### III. EDUCATIONAL MAXIMS.

I. Only one thing should be taught at one time, and an accumulation of difficulties should be avoided.

[One thing may mean one branch, one topic or a single point in one topic; the latter is intended, and the maxim directs to teach each point completely before passing to the next. To follow it the points should be arranged in their natural order, so that in teaching one we may not imply another not yet mastered.]

II. No exercise should be so difficult as to discourage exertion, nor so easy as to render exertion unnecessary.

[Beget in the pupil a sense of progress, and a sense of his own power to do as the proper stimulus to exertion.]

III. Instruction should proceed from the known to the unknown, from the simple to the complex, from the concrete to the abstract.

[(a) What the child knows is the material to be used in teaching him more; (b) and this must be done by taking up first what he will understand most easily; (c) and presenting particular concrete instances until he is able to derive from them for himself the principal rule or generalization.]

IV. The development of the child's powers is of more



importance than the acquisition of knowledge; therefore, make the latter always contribute to the former.

[The method to be followed is indicated in the following maxim.]

V. The teacher's business is to help the learner to teach himself.

[Avoid doing the work for the pupil; teach him in such ways as will help him to teach himself; lay out the work for him, supply motives for self-exertion, develop power of self-criticism.]

VI. Teach individuals so as to teach the class, and see to it that each pupil receives suitable instruction and does profitable work.

VII. Provide employment for the hands of young children and frequent changes of work for them.

VIII. Teach things, not mere words.

[In oral teaching the idea should be impressed upon the mind of the pupil before the word which expresses it; but when a new term occurs the teacher should see to it that the pupils form some conception of what it means.]

## MATHEMATICS.

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The English and general science courses offer a year in algebra, a year in geometry, two terms in arithmetic and one term in bookkeeping.

In case the classical courses are also carried a different arrangement is suggested, viz.: Place geometry in the second year and allow the third year of mathematics to consist of a term of bookkeeping, one of arithmetic and one of review in algebra and geometry. This is considered a more logical arrangement and it will doubtless be possible for such schools to have the necessary preliminary work well done. The key to the successful administration of mathematics under such an arrangement is the term of review in algebra and geometry, following, if possible, the arithmetic. This should be conducted by the principal or some one conversant with the entire course, and should aim to correlate what may be disconnected, to show relations where none were seen and to fix the principles which underlie the branches.

Students pursuing the classical courses must omit some of the studies carried by others. The courses indicate what may best be sacrificed.

### ARITHMETIC.

Review factoring, common fractions and decimals. Let the work be chiefly mental. Aim at quickness in handling easy numbers. The class need not be held to these almost fundamental operations until the necessary facility

in their use is obtained. The drill may be given in connection with more advanced calculations and serve as a relief from ordinary recitations.

### I. FACTORING.

1. Secure a thorough familiarity with all the prime numbers less than 100.
2. Secure ability to factor readily any composite number less than 100.
3. See that the pupils are able to use readily the ordinary tests of divisibility.
4. Drill in finding G. C. D. and L. C. M., 1st, by factoring; 2nd, by inspection.

### II. FRACTIONS.

1. Give much drill in handling fractions used in ordinary business, halves, thirds, fourths, fifths, sixths, eighths, tenths, twelfths, sixteenths and twentieths. If the work of factoring has been done with sufficient thoroughness, all the reductions necessary in addition and subtraction of fractions may be performed mentally, and in all work in multiplication and division cancellation may be readily employed.
2. Make problems in fractions for pupils to solve and require them to make and solve problems themselves.

### III. DECIMALS.

1. Give much mental drill in reducing common fractions to decimals, and decimals to common fractions.
2. Show that common fractions may be exactly expressed as decimals and why. In these exercises success depends upon skill in handling the two factors 2 and 5, the prime factors of 10.
3. Give written work in adding, subtracting, multiplying and dividing decimals. In all these see that pupils are able to take care of the decimal point.



IV. Problems involving measurements of rectangular surfaces, lands, flooring, painting, plastering, carpeting, etc., and problems involving measurements of rectangular solids, wood in piles, stone and bricks in walls, grain in bins, liquids in vessels, etc., should be given considerable prominence.

#### V. PERCENTAGE.

1. Take great pains to give pupils clear ideas of the meaning of the terms used, per cent., base, rate, percentage, amount, difference.
2. Give mental drill in reducing common and decimal fractions to per cent., and per cent. to common and decimal fractions.
3. In all the applications of percentage the main thing is to know exactly what the base is, and the chief troubles arise from carelessness in determining the base.
4. In all questions in profit and loss, fix thoroughly the fact that the base is the cost, and give drill in all the ordinary problems coming under this head. Give much mental work. Do not weary in asking, "what is the base?" so long as pupils hesitate in finding it.
5. Commission is more difficult. The agent may buy: in that case the base is the purchase price. The agent may sell: here the base is the selling price. The agent may collect: here the base is the sum collected. Drill thoroughly first in easy problems to be solved mentally, then in more difficult problems for written work.
6. In Trade Discount, the base is the list price. In all of the applications of Percentage the pupil's difficulty is much more likely to be found in his ignorance of the nature of the business than in his want of arithmetical skill.

7. Learn the method of levying and collecting taxes in Wisconsin and base the work upon this method. What is the base?
8. Teach interest thoroughly. Give careful instruction in regard to promissory notes. Require the pupils to write them until they become familiar with the best forms and with their legal significance. Do not attempt to teach all the numerous "best ways" of casting interest. Let the pupils have the joy of discovering some of the labor saving expedients for themselves. Teach the U. S. Rule for Partial Payments. This work is usually made unnecessarily severe. The rule may be thoroughly taught without the use of such excessively tedious and difficult "examples" as are given in some of the books.

#### VI. BOOKKEEPING.

This may profitably be pursued in connection with arithmetic. There should be much practice in making out bills and receipts; in writing notes, checks and drafts of different kinds and other business papers. Choose some simple system of bookkeeping; by illustrations make your pupils familiar with the books of the system; then give them the work in the form of memoranda. In this way you can put into your memoranda any part of the arithmetic in which you wish to give them instruction. Partnership, Trade Discount, Bank Discount and other parts of the arithmetic may be taught in this way to great advantage.

- VII. It is not profitable to teach foreign and domestic exchange as based on a "rate per cent. premium" or "course of exchange," or relating to "time drafts." Teach how to write, buy and sell checks and drafts, post office and express money orders. Exemplify other methods of paying debts in distant places.

## VIII. RATIO AND PROPORTION.

Here leave out Cause and Effect and teach the old "Rule of Three." Show that in solving problems by the "Rule of Three" while the statement differs in form from the statement in analysis, the operations to be performed are identical.

## IX. EXTRACTION OF SQUARE ROOT.

1. By factoring.
2. By inspection and trial.
3. By the ordinary rule.

## X. EXTRACTION OF CUBE ROOT.

1. By factoring.
2. By inspection and trial.
3. By the ordinary rule.

## XI. GENERAL REVIEW, in the form of the solution of illustrative problems.

These problems should be hard enough to try thoroughly the mettle of your pupils. They should be so constructed as to compel a review of the whole subject of arithmetic.

The foregoing outline has been prepared to show what may profitably be taught in this branch. Much of this should have been done in the grades below the high school so that here, following algebra, the work may be correlative in its nature and a teacher's best effort be directed to presenting a real science of arithmetic. However, it has seemed best to defer more radical changes in the high school work until the grades can accomplish what the long years of time given them justify us in expecting. Here is a problem for principals. How, in eight years, can you give pupils that body of arithmetical knowledge and that skill and readiness in dealing with numbers which any child can acquire in half the time?



## ALGEBRA.

In the school year devoted to this topic time enough is allowed to make preparation for college and to give all the disciplinary value that the branch affords.

The solution of problems is not the end in algebra, but merely an incident. A retentive memory and a little native shrewdness will soon enable a pupil to perform his examples while he is still wondering at the magic by which he obtains the no less unintelligible results. It is easy to mistake this facility for real algebraic knowledge and it is only by constant drill in expressing the meaning of symbols and of operations that the skill may be turned to good account.

The pupil should be constantly referred to principles rather than to rules so that all operations may be logical and necessarily correct. In clearing of fractions and in every step of the transformation of equations he should perceive and be able to indicate the axioms upon which the work is based. Throughout he should be taught to see that these are only new applications of the principles which have been familiar friends to him since he began arithmetic. The idea of generalization should be fully developed and constantly dwelt upon so that literal equations may bristle with meaning.

Though skill in factoring is eminently desirable, too much time may be spent in gaining facility in it. A real comprehension of the reasons for the processes must still be insisted upon.

Exponents, numerical, literal, positive, negative and zero, fractional and integral should be understood and stress should be laid upon the course of reasoning by which their value becomes apparent. Radicals and the theories of indices should be mastered even at the expense of some of the problems with which the books are filled. Algebra should stimulate thought, not action; it is a thinking study, not a doing one. But examples and problems

are necessary, for only by them can one test the pupil's power to apply the principles he has learned.

What has been said of the scope and aim of the study will indicate something of the methods to be pursued. There should be mental algebra as well as mental arithmetic, problems explained from the board and problems assigned therefrom. In general, when a problem is once solved its value is lost and it should not be called up again unless for reason. If the teacher wishes to test the skill and acumen of the pupil he can do it more advantageously by presenting an entirely new set of conditions. Independence should be cultivated and too much help should not be given. It is as useless to expect everyone in the class to do the same amount of work as it would be unfortunate were such a thing possible. If anywhere a student should be allowed to forge ahead it is in his mathematics, and if the teacher is judicious no harm will arise from comparison with others less ready. Life and animation should characterize the recitation, for the mind does this peculiar work best when under highest pressure. A slow, inert recitation is intolerable to pupils and should be tabooed among teachers.

## GEOMETRY.

Classes commencing geometry usually need some illustrative exercises in the use of the common drawing instruments and in the practical application of a few of the principles of geometry to measurements, drawing and the affairs of every day life. Time is frequently saved by such instruction at this stage and interest is certain to be excited.

Since geometry is essentially a disciplinary study, those methods of teaching are best that most tend to develop thought power in the pupils. Two things are essential:

1st. That the subject matter should be so prepared that it is difficult enough to call forth the best effort of the pupil, and yet sufficient help or suggestion should be given so as not to discourage him.



2nd. When the lesson has been prepared by the pupil he should be thoroughly tested upon it by questions. He should be called upon, in the demonstration, for instance, to show the relation of each step to the others, the authority for each statement, the reason for the construction employed, etc. In other words, he should succeed or fail in the recitation, as he stands or falls under a series of rigorous questions.

Upon the first topic, viz., the preparation of the lesson, *independence should be encouraged*. The minimum amount of growth is acquired by the pupil if he simply reads the author's demonstration and assents to it. Induce him as soon as possible to omit, in his reading, the author's quotation of authority, and to supply it himself from his knowledge of the subject.

Exercises adapted to the pupil's stage of advancement should be frequently given.

It is an excellent plan to write out suggestions for the demonstration of one of the propositions of the lesson upon the blackboard, that may enable the pupil to work out a demonstration for himself; or, suggestions may be given for a difficult exercise, or for a different demonstration from the one given; as for instance:

Prop. VIII. Chauvenet's Geometry. "In an isosceles triangle the angles opposite the equal sides are equal." In triangle  $abc$ ,  $ab$  equals  $ac$ .

Suggestion 1. Bisect angle  $a$  and extend the line to the base.

Suggestion 2. Compare the two triangles thus formed in respect to size.

As the pupil has had two propositions in which he has learned to compare two triangles, thought is stimulated in finding that he has the conditions that will enable him to apply one of them as authority.

If the pupils can be induced to be independent, different demonstrations may be produced, when possible, and one student may arrive at more than one. The suggestions should be clear and adapted to the ability of the class.



The student should be led to see that geometry is a logical body of thought, in a sense integral; that it does not consist of many unrelated propositions, but that each is dependent on the others and that all have been built up by the combination of a few axioms and simple demonstrated principles.

In review a greater proportion of the work should be original. The time required for this kind of work is not easily estimated and it is better to err on the side of generosity. Do not explain at the first difficulty but let the proposition stand as a challenge to renewed effort.

In a review recitation it is well at times to have a pupil give, accurately and in order, the propositions upon which a demonstration depends. A successful device to stimulate thought and give concentration is that of describing the figure, lettering the lines and then calling upon some student to demonstrate orally from the mental picture he has made. One demonstration may serve to make the recitation for several pupils.

## CIVICS.

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These branches are so closely allied that they should be considered a harmonious group and should be clearly and persistently related in the administration of any course of study. United States history and the constitutions are given a year's time on the supposition that the former has had at least that period in the grades below the high school. In no case, however, should that elementary work be considered as sufficient. United States history cannot be satisfactorily completed below the high school.

The law requires the teaching of the constitution of the state and of the United States, but the subjects should be handled with some freedom. A dry and formal study of the documents themselves is not productive of that better education in American citizenship which the law intended to foster.

The leading authorities in historical studies seem to consider that the desired results are best obtained by devoting the first half of the third year to ancient history and the latter half to English history, assuming that the teacher will always relate sufficient general history to that of the leading nations considered. The university prefers that its students be prepared along that line.

## REFERENCE BOOKS.

The following works are of particular value to the teacher who is desirous of using the best methods in history:

*History Topics for the High School and College*, W. F. Allen.

*Methods of Teaching History*, Hall, editor. The latter is a collection of essays by representative teachers of history

and contains an excellent bibliography. Both these are published by D. C. Heath & Co. of Boston.

Reference History of the United States, Davidson. Ginn & Co.

*History in High and Preparatory Schools*, by Hart; in the *Academy* for September and October, 1887.

*Study of Local History in Wisconsin Schools*, Thwaites. Published in the *Wisconsin Journal of Education*, for November, 1888.

Gardiner's *Studies in English History* should be owned by every teacher of English history.

Gardiner's *School Atlas of English History*. (Both published by Longmans, Green & Co.)

Allen's *Reader's Guide to English History*. Ginn & Co., Boston and Chicago.

#### AMERICAN HISTORY.

Fiske's *Discovery of America*, 2 vols.

Fiske's *Beginning of New England*.

Fiske's *American Revolution*, 2 vols.

Fiske's *Critical Period of American History*.

Fiske's *Civil Government in the United States*.

These works of Mr. Fiske, which are published by Houghton, Mifflin & Co., Boston and Chicago, are especially useful to the teacher because of the attention paid to causal connections, and because of the fascinating method of presentation. They cover the period to the Republic, excepting the Southern and Middle Colonies, and the history of the eighteenth century to the Revolution. These gaps should be filled in by the following works.

Fisher, *The Colonial Era*, New York, Chas Scribner's Sons.

Roosevelt, *The Winning of the West*, 2 vols., New York, G. P. Putnam's Sons.

Thwaites, *Story of Wisconsin*, Boston, D. Lothrop & Co. Valuable for the study of local history:

Mead (Editor,) *Old South Leaflets*, Chicago, Heath & Co.

Hart & Channing (editors) *American History Leaflets*, New York, A. Lovell & Co.



The above leaflets contain extracts from important original documents, and are published at about 5 cents a copy.

Sheldon Barnes, *Studies in American History*, Chicago, Heath & Co., contains many extracts from contemporary documents.

It is taken for granted that the teacher is acquainted with such standard authorities as Parkman, Hildreth, Bancroft, Bryant and Gay, Doyle, Curtis, Van Holst, Adams. *The Narrative and Critical History of America*, edited by Mr. Winsor, is an expensive work, but is a noble example of American scholarship. The American Statesmen Series and the American Commonwealth Series, (both published by Houghton, Mifflin & Co., Boston and Chicago) afford opportunities for enriching the library at slight expense.

Two American History series, covering the whole period, are now publishing: *Epochs of American History*, 3 vols., Longmans, Green & Co., and *The American History Series*, 5 vols. Scribners.

A convenient general historical atlas for schools, is that of Labberton, published by Silver, Burdett & Co., Boston and Chicago. In American history, Hart's *Epoch Maps*, published by Longman's, is very good. The teacher would do well to own Freeman's *Historical Geography of Europe*.

#### GENERAL HISTORY.

Adams. *Manual of Historical Literature*, New York, Harpers.

Andrews. *Institutes of General History*, Silver.

Ploetz. *Epitome of Universal History*, Houghton.

Wilson. *The State*, Heath.

Lavisse. *Political History of Europe*, Longmans.

There are various series from which selections may be made to enlarge the library of general history. Such are the *Epochs Series* (Longmans) and the *Story of the Nations Series*, (Putnam).

#### ANCIENT HISTORY.

Oman. *History of Greece*, Longmans.

Allen. *Short History of the Roman People*, Ginn.

## MIDDLE AGES.

Emerton. *Introduction to the Middle Ages*, Boston, Ginn.

Duruy. *History of the Middle Ages*, New York, Henry Holt & Co.

## MODERN HISTORY.

Lodge. *History of Modern Europe*, Harpers.

Myers. *Mediaeval and Modern History*, Ginn.

Muller. *Political History of Recent Times*, Harpers.

Fyffe. *History of Modern Europe*, (1792-1878) 3 vols., New York, Holt.

## FRANCE AND ENGLAND.

Duruy. *History of France*, New York, T. Y. Crowell & Co.

Montgomery. *Leading Facts of French History*, Ginn.

Gardiner. *A Student's History of England*, (Illustrated) Longmans.

Green. *Short History of the English People*, Harpers.

## UNITED STATES HISTORY.

One of the chief aims of the teacher of history is to create an abiding interest in the study. It is not so important how many facts are acquired as how much interest is awakened. Interest will certainly result in wide reading and much knowledge will thus be gained. Anecdote should not be the exclusive means to attract attention in the high school. The year's work should have constant reference to governmental development and should be constantly related to the study of civil government. The history of the United States cannot be studied alone. Our relations with England and with the nations of Europe have had an important influence in determining the course of events, and these relations should be clearly set forth by the teacher. It is not wise to leave this for the year in general history. By anticipating, nothing is lost but more of unity is given to the entire historical course.



There should be careful topical study of the nation's growth in population, in territorial domain, in the means of inter-communication, in financial ability, in educational facilities and in moral power. Events that have hindered the progress of the nation should be considered. The presidents were results, not causes, and all do not deserve equal consideration, nor the complimentary notice of a definite location in one's memory. If the caution against teaching too many things is needed anywhere it is in the history of our own land. If anywhere the trivial is apt to be ranked with the important, it is here where time has not lent its powerful perspective and where text-books vie with each other in gathering every incident that may possibly be remembered. In this branch, more than in any other, access may be had to original sources of information and there are consequently offered the best opportunities for developing the taste for investigation. Local and recent history may thus be written by the pupils themselves.

The proper scope of the review is to unify the work of the year. The tendency of laboratory or seminary methods is to make seem unduly prominent the special work done by the pupil, or to give him disconnected and discordant ideas. Now, to close the year, comes the review wherein each may see what all have done and during which one may stand where he can obtain a birds-eye view of the whole historical landscape. Two helpful substitutes for the ordinary review may be mentioned. In one the pupil is given an entire subject, as, for instance, the New England Colonies. To make from this topic a fluent recitation that holds the interest of all pupils, though the subject is familiar, will be a delight to any pupil. When the recitation is finished it is criticised as to matter and manner, the language, the attitude and intonation of the reciter, as well as historical matter, all coming under fire. The second device consists of a raking fire of short, sharp questions for a few moments in each recitation. To these a prompt, direct answer is required. The purpose of this is to give the pupils the power of quickly and accurately recalling the substance of their previous lessons, and to fix the whole indelibly upon the mind.



## CONSTITUTIONS.

What knowledge is of most worth in this domain? This question may be answered by another. What will the citizen need and what would be most apt to act as an inspiration to good citizenship? Manifestly one cannot be a good citizen unless he has a fair knowledge of the elementary principles underlying our government. These may be taught by specific examples and illustrations, may be acquired and fixed by intelligently relating them to the history of the times from which they took their origin. In the light of history the full meaning of principles may be seen. The year devoted to United States history and constitutions should not be broken up by the fast lines that mark the divisions of the course of study. It may be considered that the two subjects are parallel or homogeneous throughout, and a unity of purpose should pervade the work of the year.

The machinery of the government, a knowledge of the essentials of which is so important in the practical political life of every citizen, may be constantly studied in connection with the town, municipality and state as the times for voting and for the meeting of the legislative bodies approach. The operation of laws in daily life should be illustrated and no pains spared to bring them to the knowledge of the pupil.

Two general systems are in practice through the state, each of which may be considered reasonable and successful when well handled. By the first the student begins his specific work by study of the local government, and broadens his field of vision by examining in turn the county, state and nation. In the other method the subject is approached from the domain of history and the work is begun with the government of the country as a whole, as based upon the constitution of the United States. Following this come the various modifications which have crept into state governments, particularly that of Wisconsin, while the study of county and town is left to the last. Whichever general system is adopted the specific methods

in use should be varied and impressive. The constitutions themselves should be studied and the parts which are of vital importance may be memorized, but the documents as wholes are neither valuable nor inspiring.

To comply with the law the constitution of the United States and of the state must both be studied. Each should be viewed in the light of the other, giving the greater attention to that which is of fundamental importance, the constitution of the United States. If the principles of this be understood, the work on that of the state can be largely devoted to pointing out the things which a local government has made necessary, the places in which the law comes more nearly to the individual, and the variety of subjects taken up which are not included in the more general document.

The subject of government in the abstract is difficult and needs so much of illustration that there should be no erring on the side of slavery to the text-book.

The government of our own country may be better understood by comparing it with those of foreign nations, and here the relation to general history is apparent and gives some color to the idea that the position in the course for this year's work is after general history. England gives an example of a parliamentary system different from ours. France though republican in name is far more highly centralized, while the Swiss govern themselves. The peculiarities of each of these plans should be understood.

There may be debates, reports of legislative meetings, moot courts and legislatures. The topical method will be found largely helpful. Congressional reports, legislative journals and newspaper articles should be consulted in relation to pertinent questions. Too minute directions might prove to be a hindrance, for the course of action pursued must be largely dependent upon the facilities offered by the community in which the school is located. Some of the more recent texts will render valuable assistance, especially where there are reasons for using those which adhere to the older and narrower conceptions of the subject. As in history, a variety of books is extremely desirable. It is



not necessary that the body of knowledge possessed by any pupil should be identical with that which another has. Fiske's *Civil Government*, Dole's *American Citizen*, and successive copies of the *Blue Book* should be at hand.

## ANCIENT HISTORY.

The time devoted to oriental history must necessarily be short. Emphasis should be laid on the chronological succession of the great oriental empires, the characteristics of each, and the contributions that each has made to the history of civilization. The teacher should guard against the notion that any of the eastern nations can properly be studied by itself; attention should constantly be called to their relations to one another and to the elements of unity in their history. Thus the sojourn of the Hebrews in Egypt may serve to connect Egyptian history with the history of Israel. The overthrow of the Jewish kingdoms by Assyria and Babylon connects them with the history of the Mesopotamian kingdoms. Chaldea, Assyria and Babylon should be studied in succession. The conquests of Persia may be made the basis of a review of the other oriental kingdoms; a diagram may easily be prepared to assist in the review. Phoenicia should be studied last as the great middle-nation of antiquity, the colonizers and traders who connected the oriental nations with one another and carried their civilization to Greece and the West.

On Egypt, reference can be made to *Harper's* for July, 1882, and October, 1886; *The Century* for May, 1887, and *Scribner's* for January and October, 1888. Many parts of the Old Testament throw light on the general history of the Orient, e. g., Ezekiel's description of the Phoenicians. The volumes on the Orient in the Story of the Nations Series deserve a place in a school library.

The history of Greece should be approached from the east. The student should compare for himself the eastern and western shores of Greece, and see how the islands



and harbors of the Aegean invited civilization across from Phcenicia and Asia Minor. He should see on the map the causes which kept the Greeks disunited and made them a sea-faring people. (No spot in Greece is more than forty miles from the sea. With one-tenth the area, Greece has as many miles of sea coast as Spain and Portugal.) A suggestive way of looking at Greek history is to divide it into three periods: the early ages of migration and colonization; the period of the internal development of the various states; the epoch of Phillip and Alexander. In the first period the Greeks were settling the mainland of Greece and sending colonies with the rudiments of civilization into the Aegean, the Black Sea, and the western Mediterranean. Then came a long period of internal development, of intensive rather than extensive life, during which the Greeks lived to themselves and had little to do with foreign nations, although it was the results of their growth in this period that exercised most influence on later times. It was the age of Pericles, Phidias and Sophocles; it was also an age of bitter wars among the Greek states. The supremacy was held in succession by Athens, Sparta and Thebes until their jealousies prepared the way for the rise of Macedon. Finally, the conquests of Philip and Alexander spread Greek civilization over the East, and the arts and learning of conquered Greece took captive her Roman conquerors.

Roman history should be studied in the light of general history. It should be noted that just as Greece looks toward the east, Rome is turned to the west and left its greatest influence on the peoples of western Europe. The Greek contributions to civilization were largely in the realms of art and literature; the Roman, in the field of law and government. The student should get a clear idea of the widening of Roman dominion from the little Latin hill town to Italy, and finally to the whole Mediterranean world. The economic and social changes that accompanied this growth from a city community to a world-empire are instructive. It should be made clear that the important period of Roman history

does not terminate with the life of the republic, and that some of the most significant phases of Roman influence and power began then. It was under the empire that Rome unified the heterogeneous peoples she had conquered, gave them a common system of law, a common religion, a common language, and thus made her influence permanent. The only unity Europe had in the Middle Ages came from Roman sources. The so-called fall of Rome is really one of the best illustrations of the continuity of history.

Since many students derive all their knowledge of Greek and Roman civilization from their study of ancient history they should be taught as much concerning the life, art and literature of the Greeks and Romans as the time will allow. Pictures of Greek statues and Roman buildings should be shown. Students should be referred to magazine articles, such as Miss Preston's recent papers in the *Atlantic* on Roman private life. They should be encouraged to read classical history. Selections from Herodotus and Plutarch always appeal to young people. Macaulay's *Lays of Ancient Rome*, though they rest on tradition, give expression to much of the old Roman spirit. "There is nothing like the magic charm, whether of sublimity or pathos, that poetry lends to historical events, persons and places."

Illustrations alone are not sufficient to give reality to a period of history; a picture, however vivid, may be as unreal as a dream. The student should compare ancient events and persons with modern events and persons that he may see that the Greeks and Romans do not live in the pages of a text-book alone, but that they had a real flesh and blood existence like his own. He should come to look at history not as a panorama of unconnected pictures but as the record of gradual human development.

## ENGLISH HISTORY.

Much of what has been said regarding ancient history applies to English history as well. Where general history is not taught the chief events in the history of Europe should



be briefly described in connection with English history. Thus the work may begin with a study of Britain before the Romans. The Roman conquest and occupation should be connected with the Roman empire. The Saxon invasions of the fifth century should be considered in connection with Germanic invasions in general, and the results in England and on the Continent compared. Something may be said of Charlemagne and of the Saracen empire. Study of the Danish and Norman conquests should be preceded by an account of the migrations of the Northmen. Feudalism, the Crusades, the controversy between Pope and Emperor, the rise of towns, the Renaissance, the Reformation, the 'Thirty Years' War, and other great European movements may in the same way be brought into relation with the history of England. The students will thus get a clear idea of the history of a single country—and that the most important for an American, next to his own—and at the same time will learn something of the general history of Europe without being confused by the stories of too many nations and events.

#### DEFECTS IN PREPARATION.

The following have been pointed out as defects found in the preparation in history of students entering the University of Wisconsin, and are given here as indirect suggestions of methods:

First. A lack of geographical knowledge. If the relation of physical and political geography to history were emphasized there would be much gain for both subjects.

Second. The text-book rather than the subject has been taught. Use should be made of the topical method and of general outside reading, although not to the exclusion of the text-book.

Third. Failure to select what is vital and to omit what is trivial. On this point Prof. Emerton, of Harvard, well says:

"It is important that a certain number of dates should be learned accurately and solidly. The danger here is that much may be required, and the pupil's mind be thus burdened with a mass of information the meaning of



which he cannot understand. Require at first but few dates, but let these be such as mark great crises of history. Others may then be grouped about these, and will never be forgotten so long as the central dates are remembered. Do not ask pupils to learn lists of rulers, because rulers have not generally been the most important makers of history. It may be urged that the names of rulers form convenient pegs on which to hang our historical knowledge, but we can generally find better pegs."

Fourth. The attempt to do too much.

#### GENERAL METHODS.

Under this head are grouped a series of suggestions applicable alike to the teaching of any department in this branch.

The instructor should aim (a) to leave in the student's mind, a clear outline of important events in their relations to one another and some knowledge of the characteristics of each nation studied; (b) to develop the student's power of comparing facts and drawing inferences from them; (c) to stimulate the love of historical study. The simpler and clearer the methods used the better will be the results.

The physical geography of the region should come first. Historical instruction, without the constant accompaniment of geography, has no solid foundation. Attention should be called in advance to the way these physical features have affected the course of history, and the student should be encouraged to trace such influences in the case of individual nations. Egypt is an excellent example.

Interest may be aroused by a judicious use of illustrative material, such as may be found in Sheldon's *Studies in General History* or the same author's *Greek and Roman History* (Chicago, D. C. Heath & Co.). Good pictures are useful. Students should be encouraged to read articles in recent magazines. In the use of supplementary material care must be taken not to confuse or overload; the effort should be to whet the appetite, not to satiate.

A pleasant recitation room brightened by pictures and filled with books is the proper home of successful teaching,

and whatever will attract attention and retain interest is valuable. The dry and formal committal of a text is a waste of time and the disgust with historical studies which grew out of it is the only possible result. Better drop the study from the curriculum than to continue to teach it in that old-fashioned way. If there are places of historic interest in the neighborhood, and Wisconsin has her share, visit them with the class and on the spot bring vividly to mind the scenes of thrilling interest that there transpired. If these are not accessible, some one in the class has visited such localities and from him can be obtained interesting accounts which may be followed by questioning from the class and comment from the teacher. A visit to Chattanooga or to the halls of Congress would furnish striking opportunities for description and could usually be illustrated by pictures and diagrams. The large cities have museums and art collections and a visit to these would be of immense value, as words and even pictures fail to give the vivid impression that a glance at a mummy-case and its inscriptions will convey. In many a village there are private collections which the owner would be delighted to exhibit to a class of pupils or to lend to an earnest teacher. Chronology and descriptive text may fail to excite interest, but graphic biography will always hold a class. The vitality of a great life seizes the hearer and the impressions thus made are recalled vividly long after the dates fade from the memory. The lives of great men are not all of history and there come times when their relations to the world's progress must be clearly shown, but it is safe to assume that high school pupils are not all philosophers nor will they be interested at first in purely philosophical themes.

In keeping with what has been said is the further advice to be contented only when several text-books are accessible. No one book covers the whole field nor does it present different aspects equally well. Authors vary greatly and it is a teacher's business to discriminate among them, to show wherein one excels and what may be safely omitted from another. This multiplicity of texts need not be expensive. If the district furnishes the books



several small sets can be bought as cheaply as one large one. If the pupils buy, the same need not be required of all. Only the weak teacher finds difficulty where several authorities are used.

There must be parallel readings outside the school textbooks. These may be in strictly historical works or they may run into the domains of poetry and romance. While sometimes history may have been sacrificed slightly for the plot and while the "poet's license" may have permitted him to distort facts occasionally, yet there are many novels and poems that portray the life of epochs as no historian's pen ever attempted. A study of the literature of a period may create an abiding interest in the times, while from a collection of poems dealing with an epoch many a fascinating recitation may be derived.

What has been said so far implies a library. Books are to the student of history what wire and glass are to the physicist. Side by side with the furnishing of the laboratory comes the collection of a library. Ten dollars may start it, twenty will give a fair list of working authorities, while two hundred dollars will furnish a well-stocked library for class work. If the town affords a public library it should be freely used; private libraries are usually open to careful pupils, and if neither of these resources is at hand each pupil in the class may buy one good book or contribute something toward such a purchase.

Elsewhere much has been said about the tactics of the class room, but a few further hints may be added. Lectures by the teacher are not valuable except when briefly used to open a new field of investigation or to prepare the way for a subsequent recitation. This does not exclude descriptions of places and events which have fallen under the teacher's own observation, or those which may serve to illuminate dark passages.

Frequently upon the completion of a topic a written analysis may be prepared by a pupil, placed upon the board and subjected to the criticism of the class. The relative importance of items in the classification, the omission of important things and the including of those of less value,



the words and phrases in which the outline is couched should all be criticised.

An occasional and painstaking bibliography of a subject is a good assignment of work for a pupil. The references should be classified, and clearly made to book, page and paragraph. If these are filed they will be of value to other pupils in the study of the same subject.

In using the topical method, especially with classes new to the subject, great care must be taken to make the directions explicit. Occasionally it may be wise to send a pupil to a library to search for his material, but usually careful direction as to book, chapter and even page should be given. Weariness and disgust frequently come from the fruitless efforts of the tyro among books. Too broad a topic is discouraging and leads to slovenly investigation. If the teachers themselves are unfamiliar with the authorities, little should be attempted. One or two well digested topics will be of infinitely more value than partially fruitless attempts to consider a wide range of subjects. The teacher will soon find that he must cultivate the habit of *rejection* as well as of *collection*. When such topics are assigned as can only be studied from original sources of information this habit becomes of vital consequence. To those who have never tried the plan there will come surprises from the quantity of interesting records any community affords when the pupils are set upon a course of investigation. Copies of charters and other public documents, newspaper files and old letters, records from the courts and the minutes of legislative bodies may all be consulted. Eye witnesses of stirring events will give their accounts and an opportunity for keen discrimination is offered in detecting how much of personal coloring is given to the narrative. Wisconsin is still young enough so that much of its local history may be compiled in this way. Care must be taken that there is no prying nor impertinent curiosity nor encouragement of petty gossip. Each pupil should have his special topic, and when fully completed it should be safely filed in a convenient place for public consultation. No attempt should be made to give each indi-

vidual in the class the same work, nor can the work of succeeding years be identical. It is not a search for the accumulation of facts, but a training in the habit of investigation and of the powers of discrimination and of reason, and, frequently, the value of the discipline cannot be measured by tangible results. The history of the school, of local organizations, of literary and other societies, of the class of which the pupil is a member, of the growth of prominent industries in the locality and other minor topics of this nature are not without their value in training the historical sense.

And, lastly, the teacher should bear in mind that life and animation are the characteristics of the successful class in history and that he must look to himself as the cause of the listless, half-rebellious attitude which characterizes the class of whom is required only the mechanical absorption of the facts of a school text.

### POLITICAL ECONOMY.

The study of political economy will be chiefly useful to pupils in a high school as an introduction to the serious and thoughtful consideration of the practical affairs of life. Its purpose is not so much to present a body of knowledge as to form a habit and give a basis of estimating economic values and results. To many persons the statement that values originate in labor, and that wealth represents services performed, comes at first as a great novelty. The full realization of the truth and of its bearing on various ways of money-getting current in society, comes not from memorizing the text, but from an abundance of illustrations brought out in the class-room, with the usual accompanying comment and criticism. Possibly no other study in the course so urgently demands the conversational method of conducting a recitation, and can so ill endure the verbal memorizing of text-books.

Pupils who have studied the conditions affecting the production of wealth, including the division of labor, the con-

sequent frequent separation of the capitalist from the laborer and growth of combinations on each side, should be better able to read intelligently the current discussions of the "labor problem" in leading journals and magazines. If they are led to read such discussions of important questions and to subject the articles to the test of measurement by the principles stated and accepted previously, there may be less satisfaction with dogmatic statements, but there should result a wider interest in human affairs and current news, with a broader toleration of divergent views. Established facts and accepted theories may be made intelligible by copious illustrations. Teachers may make clear what facts and principles are involved in the settlement of any controverted subject, but should avoid all fruitless discussion. Pupils must learn what taxes are, what kinds are known, what arguments are advanced to support them, how their imposition or removal may affect industries; but all debates having personal or political tendencies are unfortunate. There is no place in a public school for partisanship or propagandism.



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